

UNITED STATES AIR FORCE

OCCUPATIONAL SURVEY REPORT

DTIC QUALITY INSPECTED 2

ENGINEERING

AFSC 3E5X1

AFPT 90-3E5-073

APRIL 1997

19970620 038

OCCUPATIONAL MEASUREMENT SQUADRON
AIR FORCE OCCUPATIONAL MEASUREMENT SQUADRON
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| DET 7, 366 TRS/TSIC (427 FREEDOM DRIVE, FT LEONARD WOOD MO 65473-5000) | 4 | 1 | 4 | 1 |

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PREFACE

This report presents the results of an Air Force Occupational Survey of the Engineering career ladder, Air Force Specialty Code (AFSC) 3E5X1. Authority for conducting occupational surveys is contained in AFI 36-2623. Computer products used in this report are available for use by operations and training officials.

The survey instrument was developed by Mr. Robert E. Boerstler, Inventory Development Specialist, with computer programming support furnished by Ms. Jeannie C. Guesman. Mr. Richard G. Ramos provided administrative support. Second Lieutenant Scott M. Foley, Occupational Analyst, analyzed the data and wrote the final report. This report has been reviewed and approved by Lieutenant Colonel Roger W. Barnes, Chief, Airman Analysis Section, Occupational Analysis Flight, Air Force Occupational Measurement Squadron (AFOMS).

Copies of this report are distributed to Air Staff sections, major commands, and other interested training and management personnel. Additional copies are available upon request to AFOMS, Attention: Chief, Occupational Analysis Flight (OMY), 1550 5th Street East, Randolph AFB Texas 78150-4449 (DSN 487-6623).

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SUMMARY OF RESULTS

1. **Survey Coverage:** Active-Duty (AD), Air National Guard (ANG) and Air Force Reserve (AFRES) personnel in the Engineering career ladder were surveyed to provide current job and task data. Survey results are based on responses from 1,022 members (54 percent of the total assigned personnel). The sample satisfactorily represents the overall career ladder population of the AD, ANG, and AFRES.

2. **Specialty Jobs:** Seven jobs were identified in the career ladder structure analysis. Six of the jobs were very technical in nature, while the seventh job was strictly supervisory in nature. Survey data indicate personnel are performing jobs as envisioned in the current classification structure, with most sample respondents performing similar job inventory (JI) tasks.

3. **Career Ladder Progression:** Progression in this career ladder follows a regular pattern of highly technical job focus at the lower skill levels, with a broadening into supervision and management at the 7- and 9-skill levels. Additionally, the only 3-skill level personnel represented in the study were serving on active duty and the major difference among the 5-skill level airmen was the increase in Mobility functions in the ANG and AFRES. With the 7-skill level groups, the data showed similar results as their junior counterparts at the 5-skill level, but there is an increase in supervisory functions. Furthermore, ANG 7-skill level personnel are doing very little supervision, but are spending much of their time in the Engineering and Mobility clusters. At the 9-skill level, the data shows a decrease in representation in the Mobility Cluster and an abundance of supervisors in all three components. Skill-level progression for members of this AFSC is typical of most career ladders. All skill level groups responded in like numbers to most of the technical tasks in the JI.

4. **AFMAN 36-2108 Specialty Description:** The description accurately describes the technical and supervisory aspects of jobs at the various levels.

5. **Training Analysis:** Survey data compiled in the form of a special Utilization & Training Workshop Extract was provided to October 1995 workshop participants. The occupational survey report data were reviewed and utilized to evaluate, as well as to update, such items as 3-, 5-, and 7-skill level Specialty Qualification (AFMAN 36-2108 *Specialty Description*), Specialty Training Standard, and the Career Field Education and Training Plan for a 1996 publication. These items plus several others are supported by survey data.

Implications: Survey results indicate the present classification structure is supported by survey data. Career ladder training documents are well supported by survey data and the overall training system is perceived to be working well based on career ladder member responses.

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**OCCUPATIONAL SURVEY REPORT (OSR)
ENGINEERING
(AFSC 3E5X1)**

INTRODUCTION

This is a report of an occupational survey of the Engineering career ladder conducted by the Air Force Occupational Measurement Squadron (AFOMS). Survey data will be used to identify current utilization patterns among career ladder personnel and evaluate career ladder documents and training programs. The last OSR published for Engineering was in August 1990 for AFSC 553X0.

Background

As described in the AFMAN 36-2108 *Specialty Description*, dated 31 October 1993, Engineering personnel conduct site location surveys and preliminary engineering inspections and investigations. Additionally, these airmen plan and design site layout, considering factors such as environmental criteria, topography, soil, survey data of area, location of existing structures, and availability of utilities.

Furthermore, these engineering personnel perform engineering studies and designs. They plan and prepare cost estimates, performance work statements, and specifications for existing and proposed facilities. These airmen design rigid or flexible pavements, not subject to extreme climate or loading.

Engineers perform continuous inspection and surveillance of projects being accomplished by contract. These airmen perform standardized tests on soils, asphalt, and concrete. Lastly, they perform command post duties including command and control, technical assistance, and resource control.

Personnel entering the AFSC 3E5X1 career ladder must complete the apprentice course located at Fort Leonard Wood, MO. This 10-week, 2-day course trains members for the required skills, such as: mathematics as applied to surveying; principles, procedures, and performance of plane surveying; use and care of surveying equipment; basic drafting fundamentals; use and care of drafting equipment; multiview and engineering drawings; Safety; Air Force publications; engineering publications; methods of reproducing drawings and plans; operation of reproduction machines; and basic auto Computer Aided Design and Drafting (CADD) software operation.

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At the present time, the course Plan of Instruction is being rewritten and updated. Entry into this career ladder currently requires an Armed Forces Vocational Aptitude Test Battery score of GENERAL - 48; a strength factor of "G" (weight lift of 70 lbs) is required as well.

SURVEY METHODOLOGY

Inventory Development

The data collection instrument for this occupational survey was USAF Job Inventory (JI) Air Force Personnel Test 90-3E5-073 dated February 1995. A tentative task list was prepared after reviewing pertinent career ladder publications and directives, pertinent tasks from the previous survey instrument, and data from the last OSR. The preliminary task list was refined and validated through personal interviews with 31 subject-matter experts at the technical training location and at the following installations:

| <u>BASE</u> | <u>UNIT VISITED</u> |
|-----------------|----------------------------------|
| Sheppard AFB TX | 366 TRS/TOC |
| Hurlburt FLD FL | HQ AFSOC/CEX |
| Tyndall AFB FL | HQ AFCESA/CESC |
| Castle AFB CA | 93 CES/CEE |
| Nellis AFB NV | 558 CES/CC 820 RED HORSE/CEES |

The resulting JI contains a comprehensive listing of 641 tasks grouped under 16 duty headings, and a background section requesting such information as grade, major command (MAJCOM) assigned, organizational level, job title, functional area, and primary surveying equipment used in present job and during a contingency.

Survey Administration

From November 1995 through March 1996, Survey Control Monitors at base training units worldwide administered the inventory to eligible AFSC 3E5X1 personnel. Job incumbents were selected from a computer-generated mailing list obtained from personnel data tapes maintained by the Air Force Personnel Center, Randolph AFB TX. Military members eligible for the survey

consisted of the total Active Duty (AD), Air National Guard (ANG) and Air Force Reserve (AFRES) assigned 3-, 5-, 7-, and 9-skill level population, excluding the following: (1) hospitalized personnel; (2) personnel in transition for a permanent change of station; (3) personnel retiring within the time the inventories were administered to the field; and (4) personnel in their job less than 6 weeks.

Each individual who completed the inventory first completed an identification and biographical information section and then checked each task performed in his or her current job. After checking all tasks performed, each member then rated each of these tasks on a 9-point scale, showing relative time spent on that task, as compared to all other tasks checked. The ratings ranged from 1 (very small amount time spent) through 5 (about average time spent) to 9 (very large amount time spent). To determine relative time spent for each task checked by a respondent, all of the incumbent's ratings are assumed to account for 100 percent of his or her time spent on the job and are summed. Each task rating is then divided by the total task ratings and multiplied by 100 to provide a relative percentage of time for each task. This procedure provides a basis for comparing tasks in terms of both percent members performing and average percent time spent.

Survey Sample

Military personnel were selected to participate in this survey so as to ensure an accurate representation across MAJCOMs and paygrade groups. Table 1 reflects the percentage distribution, by MAJCOM, of assigned active duty AFSC 3E5X1 personnel as of November 1995. The 1,022 military respondents in the final sample represent 54 percent of the total assigned personnel and 59 percent of the total personnel surveyed. Table 2 reflects the paygrade distribution for AFSC 3E5X1 personnel. Overall, the survey sample is considered to be a satisfactory representation of the overall career ladder population.

TABLE 1

MAJCOM DISTRIBUTION OF ACTIVE DUTY 3E5X1 PERSONNEL

| COMMAND | PERCENT OF ASSIGNED* | PERCENT OF SAMPLE |
|---------|-------------------------|----------------------|
| ACC | 28 | 31 |
| AFMC | 16 | 18 |
| PACAF | 15 | 16 |
| AMC | 13 | 12 |
| AETC | 8 | 8 |
| AFSPC | 8 | 6 |
| USAFE | 6 | 5 |
| AFSOC | 2 | 2 |
| OTHER | 4 | 2 |
| TOTAL | 100 | 100 |

| | <u>ACTIVE DUTY</u> | <u>AIR NATIONAL GUARD</u> | <u>AIR FORCE RESERVE</u> | <u>TOTAL</u> |
|-----------------------------|------------------------|-------------------------------|------------------------------|--------------|
| Total Assigned: | 1,041 | 542 | 319 | 1,902 |
| Total Eligible/Surveyed: | 960 | 507 | 301 | 1,768 |
| Total in Survey Sample: | 694 | 216 | 112 | 1,022 |
| Percent Assigned in Sample: | 66% | 40% | 35% | 54% |
| Percent Surveyed in Sample: | 72% | 43% | 37% | 59% |

* All data are as of November 1995

TABLE 2

PAYGRADE DISTRIBUTION OF SAMPLE

| PAYGRADE | PERCENT OF ACTIVE DUTY ASSIGNED* | PERCENT OF ACTIVE DUTY IN SAMPLE | PERCENT OF AIR RESERVE ASSIGNED* | PERCENT OF AIR RESERVE IN SAMPLE | PERCENT OF AIR GUARD ASSIGNED* | PERCENT OF AIR GUARD IN SAMPLE |
|------------|--|--|--|--|--------------------------------------|--------------------------------------|
| E-1 to E-3 | 16 | 17 | 1 | 0 | 4 | 5 |
| E-4 | 24 | 27 | 11 | 9 | 18 | 17 |
| E-5 | 23 | 22 | 41 | 35 | 28 | 27 |
| E-6 | 18 | 16 | 19 | 27 | 21 | 22 |
| E-7 | 17 | 16 | 19 | 18 | 20 | 22 |
| E-8 | 2 | 3 | 9 | 12 | 9 | 7 |

* As of November 1995

Task Factor Administration

Job descriptions alone do not provide sufficient data for making decisions about career ladder documents or training programs. Task factor information is needed for a complete analysis of the career ladder. To obtain the needed task factor data, selected senior AFSC 3E5X1 personnel (generally E-6 or E-7 craftsmen) also completed a second booklet for either training emphasis (TE) or task difficulty (TD). These booklets were processed separately from the JIs. This information is used in a number of different analyses discussed in more detail within the report. In this study, TE and TD information were gathered from ANG, AFRES, and AD personnel.

Training Emphasis (TE): TE is a rating of the amount of emphasis that should be placed on tasks in entry-level training. The 93 senior NCOs who completed a TE booklet were asked to select tasks they felt required some sort of structured training for entry-level personnel, and then indicate how much training emphasis these tasks should receive, from 1 (extremely low emphasis) to 9 (extremely high emphasis). Structured training is defined as training provided at resident technical schools, field training detachments, mobile training teams, formal on-the-job training (OJT), or any other organized training method. Interrater agreement for these 93 raters was acceptable. Separate reviews of ratings across the three component groups showed no differences; thus, TE ratings are reported on the total sample of raters. The average TE rating was 2.17, with a standard deviation of 1.62. Any task with a TE rating of 3.79 or above is considered to have high TE.

Task Difficulty (TD): TD is an estimate of the amount of time needed to learn how to do each task satisfactorily. The 41 senior NCOs who completed TD booklets were asked to rate the difficulty of each task using a 9-point scale (extremely low to extremely high). Interrater reliability was acceptable. As with the TE raters, separate reviews of the ratings by component group was conducted and no differences were found. Therefore, TD ratings are reported on the total sample of raters. Ratings were standardized so tasks have an average difficulty of 5.00 and a standard deviation of 1.00. Any task with a TD rating of 6.00 or above is considered to be difficult to learn.

When used in conjunction with the primary criterion of percent members performing, TE and TD ratings can provide insight into first-enlistment personnel training requirements. Such insights may suggest a need for lengthening or shortening portions of instruction supporting entry-level jobs.

SPECIALTY JOBS

(Career Ladder Structure)

A USAF Occupational Analysis begins with an examination of the career ladder structure. The structure of jobs within the Engineering career ladder was examined on the basis of similarity of tasks performed and the percent of time spent ratings provided by job incumbents, independent of other specialty background factors.

Each individual in the sample performs a set of tasks called a *Job*. For the purpose of organizing individual jobs into similar units of work, an automated job clustering program is used. This hierarchical grouping program is a basic part of the Comprehensive Occupational Data Analysis Program system for job analysis. Each individual job description (all the tasks performed by that individual and the relative amount of time spent on those tasks) in the sample is compared to every other job description in terms of tasks performed and the relative amount of time spent on each task in the JI. The automated system is designed to locate the two job descriptions with the most similar tasks and percent time ratings and combine them to form a composite job description. In successive stages, new members are added to initial groups, or new groups are formed based on the similarity of tasks performed and similar time ratings in the individual job descriptions.

Overview of Specialty Jobs

The analysis procedure described above identified seven jobs within the survey sample. The division of jobs performed by DAFSC 3E5X1 personnel is illustrated in Figure 1, and a listing of those jobs is provided below. The group (GP) or stage (ST) number shown beside each title is a reference to computer-printed information; the number of personnel in each group or stage (N) is also shown.

- I. ENTRY-LEVEL CADD DRAFTSMAN JOB (ST285, N=10)
- II. ENTRY-LEVEL DRAFTSMAN/SURVEYOR JOB (ST104, N=31)
- III. ENGINEERING CLUSTER (ST103, N=376)
- IV. MOBILITY CLUSTER (GP108, N=74)
- V. CONTRACT MANAGEMENT CLUSTER (ST029, N=265)
- VI. GROUND RADAR EVALUATOR JOB (ST315, N=7)
- VII. SUPERVISOR CLUSTER (ST052, N=72)

The respondents forming these jobs account for 83 percent of the survey sample. The remaining 17 percent, for one reason or another, did not fall into one of these jobs. Examples of job titles for these people include Systems Administrator, Environmental Permits Manager, Base Programmer, EIAP Program Manager, and Dorm Manager.

AFSC 3E5X1 CAREER LADDER JOBS
(N = 1,022)

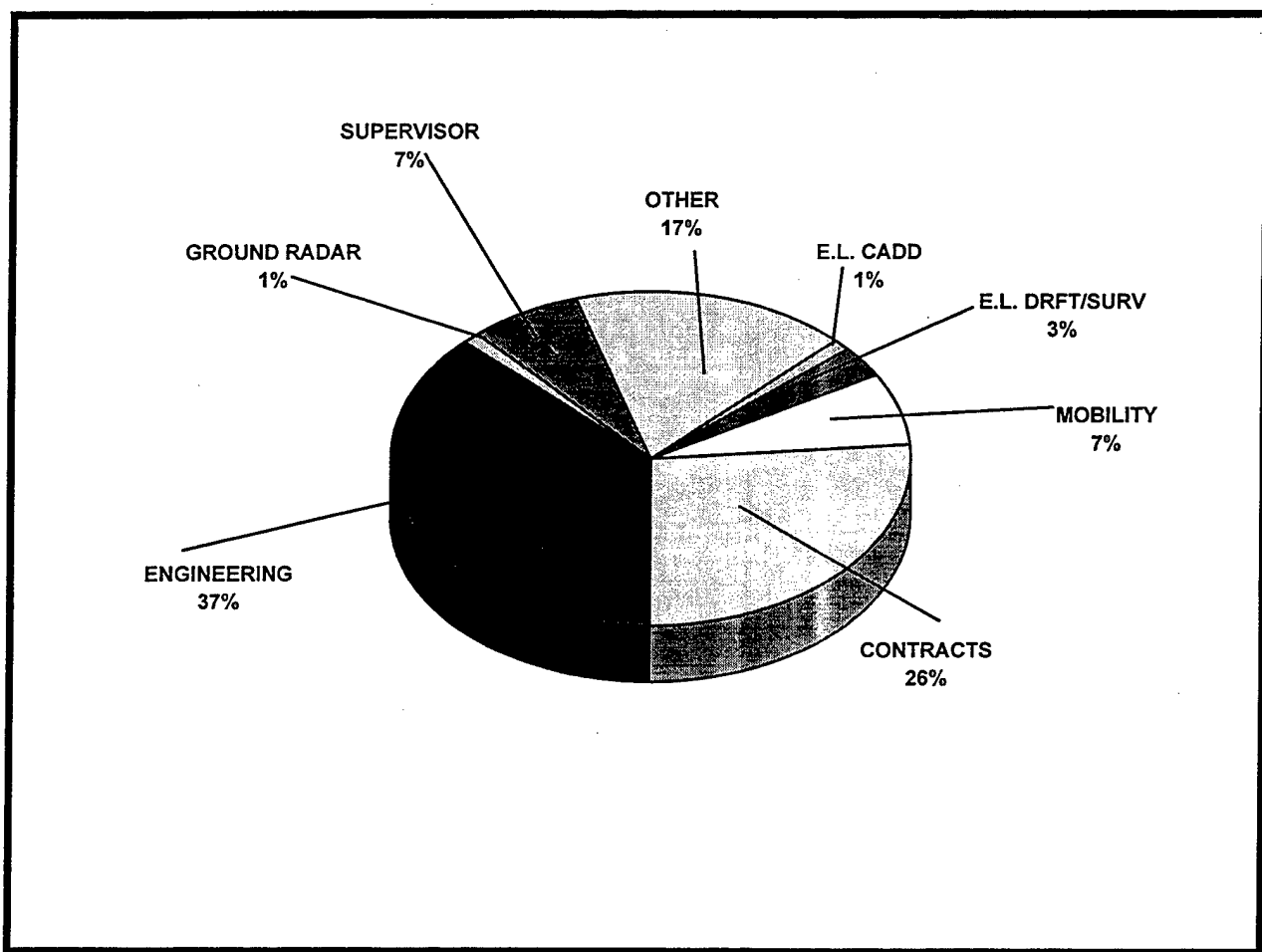


FIGURE 1

Group Descriptions

The following paragraphs contain brief descriptions of the jobs identified through the career ladder structure analysis. Table 3 presents the relative time spent on duties by members of these specialty jobs. Selected background data for these jobs are provided in Table 4. Representative tasks for all the groups are contained in Appendix A.

I. ENTRY-LEVEL CADD DRAFTSMAN JOB (ST285, N=10). The 10 airmen forming this job (1 percent of the survey sample) are primarily young active duty airmen new to the career ladder. They perform very general tasks and primarily use a CADD system to complete their work. Their responsibilities include such things as updating record or as-built drawings, performing fundamental drafting practices, and developing modifications from existing drawings, all utilizing a CADD system. Furthermore, 62 percent of their time is spent performing CADD activities, highest of all the jobs identified (see Table 3).

Performing an average of only 18 tasks, commonly performed tasks include:

- interpret engineering sketches
- interpret blueprints
- complete architectural plans using CADD system
- complete electrical plans using CADD system
- complete civil plans using CADD system
- measure irregular lines using CADD system
- manually input field data into CADD system
- complete structural plans using CADD system
- draw charts using CADD system
- complete mechanical plans using CADD system

These airmen hold either a 3-skill level (60 percent) or a 5-skill level (40 percent). Sixty percent are serving in their first enlistment. The average time in the career field for these AD airmen is a little less than 4 years. The predominant paygrades are E-2 through E-4. One-hundred percent of these members report they are assigned to units within the United States.

II. ENTRY-LEVEL DRAFTSMAN/SURVEYOR JOB (ST104, N=31). The 31 airmen forming this job (3 percent of the survey sample) are similar to the above group, but these personnel have a broader job (41 versus 18 tasks) involving both surveying and drafting activities, with far less use of CADD (see Table 3). Additionally, they are more involved with contingency activities (see Table 3). Personnel in this job are both AD (65 percent) and ANG (32 percent), with only 3 percent in AFRES. Their responsibilities include the reproduction of drawings, as well as the setting up of surveying equipment.

Distinct tasks performed include:

- measure horizontal distances using pacing technique
- reproduce drawings
- measure horizontal distances using tapes
- measure vertical distances or heights
- measure horizontal angles
- measure horizontal distances using electronic equipment
- interpret blueprints
- perform fundamental drafting practices
- record field notes using standard surveying procedures
- communicate using standardized hand signals

As with the Entry-Level CADD Draftsman Job described above, the predominant paygrades for this job are E-3 and E-4. For the AD airmen who make up this job, their average time in service is 4 years, with 90 percent of all AD, ANG and AFRES personnel assigned within the United States.

III. ENGINEERING CLUSTER (ST103, N=376). The 376 airmen forming this cluster (37 percent of the survey sample and the largest job identified) are responsible for the core work of the career ladder. These individuals are involved with all aspects of the engineering job, from reproducing drawings and interpreting blueprints to inspecting mobility bags or kits. Their responsibilities include setting up surveying equipment, maintaining computer drawing files, and completing civil plans using a CADD system. Furthermore, they perform an average of 134 tasks, far more than any other group. Distinct tasks performed include:

- measure horizontal distances using tapes
- interpret engineering sketches
- perform airfield damage assessments
- maintain drawing files, other than computer drawing files
- plot airfield damage assessments
- select MOS candidates
- erect tents
- record field notes using standard surveying procedures
- maintain surveying equipment
- maintain computer drawing files

Personnel from all three component groups are involved in this cluster, with AD personnel comprising 52 percent, ANG personnel comprising 32 percent, and AFRES personnel comprising 16 percent (see Table 4). The predominant paygrades in this job are E-4 and E-5. Performing an average of 134 tasks, the AD personnel hold a 5- (48 percent) or 7-skill level (27 percent). Forty percent of these airmen report supervising, second highest of any job group. Average time in service for AD members is 9 years.

IV. MOBILITY CLUSTER (GP108, N=74). Compromising 7 percent of the survey sample, the majority of these 74 airmen are assigned to the ANG (51 percent) and the AFRES (30 percent), and are performing a series of tasks peculiar to Mobility (note Duty O (Performing General Contingency Activities) in Table 3). While most of their time is spent performing mobility-specific tasks, they still perform engineering tasks in addition to their Mobility functions (see Table 3). Members perform an average of 54 tasks, which include:

- erect tents
- perform airfield damage assessments
- don or doff chemical warfare personal protective clothing
- interpret blueprints
- set up surveying equipment
- lay out minimum operating strip (MOS) centerlines
- select MOS candidates
- identify bomb crater damage locations
- compute repair quality criteria (RQC) for rapid runway
- reproduce drawings

Sixty-two percent of these members hold a 5-skill level, while 37 percent hold a 3- or 5-skill level. Additionally, the AD airmen have an average time in the career field of 9 years. The predominant paygrade is E-5. Furthermore, 96 percent of these members report they are assigned to units within the United States.

V. CONTRACT MANAGEMENT CLUSTER (ST029, N=265). The 265 airmen forming this cluster (26 percent of the survey sample and the second largest specialty job group) are performing an average of 96 tasks. Their job is unique in that they spend most of their time (45 percent) performing contract management activities (see Duty K in Table 3). Personnel making up this job are almost exclusively active duty (98 percent). Their responsibilities include such things as evaluating contractor compliance, conducting daily on-site visits, and identifying contractor performance discrepancies.

In addition to the above, distinctive tasks performed include:

- maintain daily inspection records
- maintain records of contract changes
- inspect and record construction projects for compliance with plans and specifications
- document construction activities
- conduct contract final acceptance inspections
- coordinate construction with appropriate agencies
- evaluate data on AF Forms 3000 (material approval submittal)
- evaluate data on AF Forms 3064 (contract progress schedule)
- identify on-site or design deficiencies
- write official memorandums to contracts

The majority of these airmen hold either a 5- (48 percent) or a 7-skill level (42 percent). Only 13 percent are in their first enlistment. The average time in the career field for the AD airmen is 12 years. The predominant paygrades are E-5 and E-6. Seventy-seven percent of these members report they are assigned to units within the United States.

VI. GROUND RADAR EVALUATOR JOB (ST315, N=7). The seven airmen forming this job (1 percent of the survey sample) perform technical tasks dealing with ground radar. Their responsibilities include analyzing radar and radio lines of sight in relation to ground elevation and computing geographical locations using the global positioning system. All airmen in this job are active duty and spend the majority of their duty time performing Duty G (Performing Surveying Activities) and Duty N (Performing Ground Radar Evaluations). Their distinct tasks performed include:

- collect physical radar site data
- coordinate obtaining TDY orders, passports, or visas with appropriate agencies
- measure horizontal distances using tapes
- calculate magnetic declinations
- compute level circuit data
- set up surveying equipment
- assemble background reconnaissance information on sites
- record field notes using radar evaluation procedures
- establish baselines
- draw pictorial site plans

The predominant paygrade in this job is E-5. Eighty-six percent hold the 5-skill level. Their average time in service is 11 years. All are assigned to Hill AFB UT.

VII. SUPERVISOR CLUSTER (ST052, N=72). The 72 members of this job are responsible for most of the work area or work center supervision tasks. These individuals are essentially shop or zone foremen, section chiefs, or work center supervisors. The cluster is represented by all three components: AD (67 percent), ANG (15 percent), and AFRES (18 percent). Sixty-two percent of their job time is spent organizing and planning, directing and implementing, inspecting and evaluating, and training (see Table 3, Duties A, B, C, and D). They perform an average of 96 tasks. Distinctive tasks performed include:

- participate in general meetings, such as staff meetings, briefings, conferences, and workshops, other than conducting
- determine or establish work priorities
- supervise engineering journeymen (AFSC 3E551)
- plan or schedule work assignments or priorities
- evaluate personnel for compliance with performance standards
- establish performance standards for subordinates
- write EPRs
- conduct on-the-job training (OJT)
- evaluate personnel for promotion, demotion, reclassification, or special awards
- counsel subordinates on personal matters

Seventy-eight percent of the members in this specialty job hold either a 7- or 9-skill level. The predominant paygrades are E-7 and E-8. The AD members' average time in service is 15 years. Ninety-one percent of these members report supervising subordinates.

Comparison of Current Jobs to Previous Survey Findings

The results of the specialty job analysis were compared to those of the last Engineering Assistant OSR published in 1990. As shown in Table 5, five of the seven jobs in the current study were also identified in the 16 jobs reported in 1990. The two entry-level jobs in the 1996 study were the only jobs not specifically identified in the last study, while two jobs identified in the previous study (Instructor and Base Survivability) were not identified in the current study. Overall, the Engineering career ladder has remained fairly stable since the last survey.

TABLE 3

AVERAGE PERCENT TIME SPENT ON DUTIES BY AFSC 3E5X1 JOB GROUPS
(RELATIVE PERCENT OF JOB TIME)

| DUTIES | ENTRY-LVL CADD DRAFTSMAN JOB (ST285, N=10) | ENTRY-LVL DRAFTSMAN/ SURVEYOR JOB (ST104, N=31) | ENGINEERING CLUSTER (ST103, N=376) | MOBILITY CLUSTER (GP108, N=74) |
|---|--|---|--|--------------------------------------|
| A ORGANIZING AND PLANNING | 6 | 2 | 6 | 4 |
| B DIRECTING AND IMPLEMENTING | 1 | 1 | 3 | 2 |
| C INSPECTING AND EVALUATING | 3 | 1 | 5 | 2 |
| D TRAINING | 2 | 1 | 5 | 3 |
| E PERFORMING GENERAL ADMINISTRATIVE ACTIVITIES | 3 | 3 | 3 | 1 |
| F PERFORMING SUPPLY AND EQUIPMENT ACTIVITIES | 3 | 2 | 4 | 3 |
| G PERFORMING SURVEYING ACTIVITIES | 4 | 34 | 21 | 17 |
| H PERFORMING MANUAL DRAFTING ACTIVITIES | 12 | 18 | 11 | 14 |
| I PERFORMING COMPUTER AIDED DESIGN AND DRAFTING (CADD) SYSTEM ACTIVITIES | 62 | 21 | 14 | 8 |
| J PERFORMING PROJECT PLANNING ACTIVITIES | 1 | 1 | 1 | 1 |
| K PERFORMING CONTRACT MANAGEMENT ACTIVITIES | * | * | 2 | 1 |
| L PERFORMING COST-ESTIMATE AND ANALYSIS ACTIVITIES | * | * | * | * |
| M PERFORMING MATERIAL TESTING | 1 | * | 1 | * |
| N PERFORMING GROUND RADAR EVALUATIONS | 1 | * | * | * |
| O PERFORMING ENGINEERING SPECIFIC CONTINGENCY ACTIVITIES | 2 | 6 | 9 | 18 |
| P PERFORMING GENERAL CONTINGENCY ACTIVITIES | * | 10 | 14 | 25 |

* Denotes less than 1 percent

NOTE: Columns may not add to 100 percent due to rounding

TABLE 3 (CONTINUED)

AVERAGE PERCENT TIME SPENT ON DUTIES BY AFSC 3E5X1 JOB GROUPS
(RELATIVE PERCENT OF JOB TIME)

| DUTIES | CONTRACT MANAGEMENT CLUSTER (ST029, N=265) | GROUND RADAR EVALUATORS (ST315, N=7) | SUPERVISOR CLUSTER (ST052, N=72) |
|---|---|---|--|
| A ORGANIZING AND PLANNING | 5 | 4 | 20 |
| B DIRECTING AND IMPLEMENTING | 2 | 2 | 13 |
| C INSPECTING AND EVALUATING | 9 | 6 | 17 |
| D TRAINING | 2 | 8 | 12 |
| E PERFORMING GENERAL ADMINISTRATIVE ACTIVITIES | 6 | 9 | 5 |
| F PERFORMING SUPPLY AND EQUIPMENT ACTIVITIES | 2 | 3 | 3 |
| G PERFORMING SURVEYING ACTIVITIES | 2 | 40 | 3 |
| H PERFORMING MANUAL DRAFTING ACTIVITIES | 3 | * | 3 |
| I PERFORMING COMPUTER AIDED DESIGN AND DRAFTING (CADD) SYSTEM ACTIVITIES | 2 | 5 | 2 |
| J PERFORMING PROJECT PLANNING ACTIVITIES | 3 | * | 1 |
| K PERFORMING CONTRACT MANAGEMENT ACTIVITIES | 45 | * | 6 |
| L PERFORMING COST-ESTIMATE AND ANALYSIS ACTIVITIES | 3 | * | 1 |
| M PERFORMING MATERIAL TESTING | * | * | * |
| N PERFORMING GROUND RADAR EVALUATIONS | * | 22 | * |
| O PERFORMING ENGINEERING SPECIFIC CONTINGENCY ACTIVITIES | 7 | * | 7 |
| P PERFORMING GENERAL CONTINGENCY ACTIVITIES | 8 | * | 8 |

* Denotes less than 1 percent

NOTE: Columns may not add to 100 percent due to rounding

TABLE 4

SELECTED BACKGROUND DATA FOR SPECIALTY JOBS

| | ENTRY-LVL CADD DRAFTSMAN JOB (ST285, N=10) | ENTRY-LVL DRAFTSMAN/ SURVEYOR JOB (ST104, N=31) | ENTRY-LVL ENGINEERING CLUSTER (ST103, N=376) | ENTRY-LVL MOBILITY CLUSTER (GP108, N=74) | ENTRY-LVL CONTRACT MANAGEMENT CLUSTER (ST029, N=265) |
|---|--|---|---|---|--|
| PERCENT OF SAMPLE | 1% | 3% | 37% | 7% | 26% |
| PERCENT IN CONUS | 100% | 90% | 91% | 96% | 77% |
| <u>ACTIVE DUTY PERCENT DAFSC DISTRIBUTION</u> | | | | | |
| 3E531 | 60% | 35% | 17% | 7% | 8% |
| 3E551 | 40% | 58% | 48% | 62% | 48% |
| 3E571 | - | 6% | 27% | 30% | 42% |
| 3E591 | 0% | 0% | 8% | 1% | 2% |
| <u>COMPONENT STATUS</u> | | | | | |
| ACTIVE DUTY | 90% | 65% | 52% | 19% | 98% |
| AIR GUARD | - | 32% | 32% | 51% | - |
| AIR RESERVE | 10% | 3% | 16% | 30% | 2% |
| PREDOMINANT GRADE(S) | E-2 to E-4 | E-3 to E-4 | E-4 to E-5 | E-5 | E-5 to E-6 |
| <u>ACTIVE DUTY PERSONNEL DATA ONLY</u> | | | | | |
| AVERAGE MONTHS IN CAREER FIELD | 43 | 41 | 86 | 82 | 113 |
| AVERAGE MONTHS IN SERVICE | 47 | 54 | 104 | 106 | 140 |
| PERCENT IN FIRST ENLISTMENT (1-48 MOS TAFMS) | 60% | 59% | 35% | 26% | 13% |
| PERCENT SUPERVISING | - | - | 40% | 18% | 24% |
| AVERAGE NUMBER OF TASKS PERFORMED | 18 | 41 | 134 | 54 | 96 |

TABLE 4 (CONTINUED)
SELECTED BACKGROUND DATA FOR SPECIALTY JOBS

| | GROUND RADAR EVALUATORS (ST315, N=7) | SUPERVISOR CLUSTER (ST052, N=72) |
|--|--|--|
| PERCENT OF SAMPLE | 1% | 7% |
| PERCENT IN CONUS | 100% | 74% |
| <u>ACTIVE DUTY DAFSC DISTRIBUTION</u> | | |
| 3E531 | - | - |
| 3E551 | 86% | 22% |
| 3E571 | 14% | 49% |
| 3E591 | 0% | 29% |
| <u>COMPONENT STATUS</u> | | |
| ACTIVE DUTY | 100% | 67% |
| AIR GUARD | - | 15% |
| AIR RESERVE | - | 18% |
| PREDOMINANT GRADE(S) | E-5 | E-7 to E-8 |
| AVERAGE MONTHS IN CAREER FIELD | 107 | 140 |
| AVERAGE MONTHS IN SERVICE | 129 | 178 |
| PERCENT IN FIRST ENLISTMENT (1-48 MOS TAFMS) | - | 8% |
| PERCENT SUPERVISING | 28% | 91% |
| AVERAGE NUMBER OF TASKS PERFORMED | 58 | 96 |

TABLE 5
COMPARISON OF JOB GROUPS IN CURRENT STUDY
TO PREVIOUS STUDY

| | |
|---|--|
| 1996 STUDY (AFSC 3E5X1) (N=1,022) AD, GUARD, AND RESERVE | 1990 STUDY (AFSC 553X0) (N=1,049) ACTIVE DUTY ONLY |
| ENTRY-LEVEL CADD DRAFTSMAN JOB (ST285, N=10) | NOT IDENTIFIED |
| ENTRY-LEVEL DRAFTSMAN/SURVEYOR JOB (ST104, N=31) | NOT IDENTIFIED |
| ENGINEERING CLUSTER (ST103, N=376) | DRAFTING (N=58) DRAFTING AND SURVEYING (N=242) SURVEYING (N=12) PLANNING (N=6) MATERIAL TESTING (N=14) SUPPLY (N=7) |
| NOT IDENTIFIED | BASE SURVIVABILITY (N=17) |
| MOBILITY CLUSTER (GP108, N=74) | PRIME BEEF (N=24) |
| CONTRACT MANAGEMENT CLUSTER (ST029, N=265) | CONTRACT INSPECTION (N=315) SQ. LVL CONTRACTS (N=5) HQ LVL CONTRACTS (N=9) |
| GROUND RADAR EVALUATORS JOB (ST315, N=7) | GROUND RADAR (N=7) |
| SUPERVISOR CLUSTER (ST052, N=72) | NCOIC (N=117) |
| NOT IDENTIFIED | INSTRUCTOR (N=6) |

ANALYSIS OF DAFSC GROUPS

An analysis of DAFSC groups, in conjunction with the analysis of the career ladder structure, is an important part of each occupational survey. The DAFSC analysis identifies differences in tasks performed at the various skill levels. This information may then be used to evaluate how well career ladder documents, such as the AFMAN 36-2108 *Specialty Description* and the Career Field Education and Training Plan (CFETP), reflect what career ladder personnel are actually doing in the field.

The distribution of skill-level groups across the career ladder jobs is displayed in Table 6. Table 7 offers another perspective by displaying the relative percent time spent on each duty across the AD 3-skill level group. Table 8 displays the relative percent time spent on each duty across the AD, ANG, and AFRES 5-skill level groups, while Table 9 and Table 10 display the relative percent time spent on each duty across the various component 7- and 9-skill level groups, respectively. A typical pattern of progression is noted within the AFSC 3E5X1 career ladder. Personnel at the 3- and 5-skill levels work in the technical jobs of the career ladder and spend most of their time on technical tasks involving engineering activities. As incumbents move up to the 7- and 9-skill level, higher percentages work in the Contract Management and Supervisor clusters; however, what is still unique to this career ladder is that both of these skill level groups are performing as an engineer.

Active Duty Skill-Level Descriptions

DAFSC 3E531. Representing 15 percent of the survey sample, these 147 airmen perform an average of 66 tasks. The 3-skill level airmen in this study are all serving on active duty and work primarily in the Engineering (43 percent) and Contract Management clusters (15 percent) (see Table 6).

Representative tasks performed by 3-skill level incumbents are listed in Table 11. Most tasks are technical in nature and relate to Duty I (Performing Computer Aided Design and Drafting (CADD)), Duty G (Performing Surveying Activities), and Duty P (Performing General Contingency Activities).

DAFSC 3E551. Representing 31 percent of the survey sample, the 317 airmen forming this group perform an average of 83 tasks (versus 66 performed by 3-skill level members). The highest percentage of these airmen (40 percent) are working in the Contract Management Cluster (versus only 15 percent of the 3-skill levels). Another 31 percent of these airmen are performing duties and tasks within the Engineering Cluster.

Table 12 lists representative tasks performed by these AD 5-skill level personnel. Table 13 reflects those tasks which best differentiate AD 5-skill level personnel from their 3-skill level counterparts. The major difference between the two groups is that 5-skill level personnel perform a broader range of tasks, many being related to Contract Management.

DAFSC 3E571. AD 7-skill level personnel represent 21 percent of the survey sample. Similar to their junior counterparts at the 5-skill level, a little over half (52 percent) of these airmen are working in the Contract Management Cluster. However, 17 percent of these 7-skill level personnel are still working in the Engineering Cluster (see Table 6). Furthermore, 15 percent of these airmen can be found in the Supervisor Cluster.

Table 14 lists the most time consuming tasks performed by these airmen. Most of these involve Contract Management or Supervisory functions. Table 15 shows those tasks which best differentiate the 5- and 7-skill levels. As expected, the key difference is a much greater emphasis on supervisory functions at the 7-skill level.

DAFSC 3E591. AD 9-skill level personnel represent 1 percent of the survey sample. They are primarily working in the Supervisor Cluster (36 percent), the Contract Management Cluster (27 percent), and the Engineering Cluster (18 percent).

Table 16 lists the most time consuming tasks performed by these senior NCOs. Most of these involve supervisory or management functions. Table 17 shows those tasks which best differentiate the 7- and 9-skill levels. Again, as expected, the key difference is a much greater emphasis on management functions at the 9-skill level, while 7-skill level personnel are still performing many of the technical engineering tasks.

Air National Guard Skill-Level Descriptions

DAFSC 3E551. Representing 9 percent of the survey sample, these 92 airmen perform an average of 84 tasks. A major difference can be seen in the jobs performed by these personnel when compared to their AD counterparts. Whereas the largest percentage of AD 5-skill level airmen work in the Contract Management Cluster, the highest percentage of ANG personnel are found working in the Engineering Cluster (52 percent). Another major difference is that 23 percent of ANG personnel at this skill level work in the Mobility Cluster (versus only 3 percent of the AD members, see Table 6). Almost no ANG personnel work in the Contract Management Cluster.

Table 18 lists representative tasks performed by these 5-skill level personnel. Most tasks are technical in nature and relate to Duty G (Performing Surveying Activities), Duty P (Performing General Contingency Activities), Duty H (Performing Manual Drafting Activities), Duty O, (Performing Engineering Specific Contingency Activities), and Duty I (Performing Computer Aided Design and Drafting (CADD)).

DAFSC 3E571. These 88 7-skill level personnel represent 9 percent of the survey sample. Like their junior ANG counterparts at the 5-skill level, over half (63 percent) of these personnel are working in the Engineering Cluster and 18 percent are working in the Mobility Cluster. This utilization of personnel is dramatically different from patterns seen in the AD sample in that AD personnel are far more involved with contract management, engineering, and supervision at this level, while ANG personnel do very little of the contract management and supervision functions (see Table 6).

Table 19 lists the most time consuming tasks performed by these airmen. Most of these involve core engineering or mobility functions. Table 20 shows those tasks which best differentiate the ANG 5- and 7-skill levels. All tasks in the table show a negative value, indicating that 7-skill level personnel are also performing essentially the same technical tasks performed at the 5-skill level, but higher percentages are involved with supervision, training, and contingency tasks.

DAFSC 3E591. ANG 9-skill level personnel represent 3 percent of the survey sample. Fifty percent are working in the Engineering Cluster and 31 percent are working in the Supervisor Cluster. When compared to the active duty 9-skill levels, several major differences are noted. First, ANG personnel at this level are still not as involved with contract management functions as their AD counterparts (see Table 6). There is a higher percentage of these personnel working in the Engineering Cluster than found in the AD force (50 percent versus 18 percent).

Table 21 lists the most time consuming tasks performed by these senior NCOs. Most of these involve supervisory or contingency functions. Table 22 shows those tasks which best differentiate the 7- and 9-skill levels. Again, as expected, the key difference is a much greater emphasis on management functions at the 9-skill level, while 7-skill level personnel are still performing many of the technical engineering tasks.

Air Force Reserve Skill-Level Descriptions

DAFSC 3E551. Representing 7 percent of the survey sample, these 69 airmen perform an average of 97 tasks (the most tasks performed by any 5-skill level group). These airmen work primarily in the Engineering (54 percent) and Mobility (25 percent) clusters. As with ANG personnel, very few are involved with contract management functions.

Table 23 lists representative tasks performed by AFRES 5-skill level personnel. Most tasks are technical in nature and relate to Duty P (Performing General Contingency Activities), Duty G (Performing Surveying Activities), Duty O, (Performing Engineering Specific Contingency Activities), Duty H (Performing Manual Drafting Activities), and Duty I (Performing Computer Aided Design and Drafting (CADD)).

DAFSC 3E571. These 21 AFRES 7-skill level personnel represent 2 percent of the survey sample (the smallest group of 7-skill levels in the survey sample). Like their junior counterparts at the 5-skill level, a little over half of these personnel (57 percent) are working in the Engineering Cluster, with 24 percent working in the Mobility Cluster. Additionally, the percentage working in the Supervisor Cluster jumps from 4 percent at the 5-skill level to 14 percent. This percentage is similar to that seen for AD 7-skill level airmen, but far higher than seen for ANG personnel.

Table 24 lists the most time consuming tasks performed by these airmen. Most of these involve core engineering or mobility functions. Table 25 shows those tasks which best differentiate the 5- and 7-skill levels. The majority of the tasks in the table show a negative value, indicating that 7-skill level personnel are also performing essentially the same technical tasks performed at the 5-skill level but, as mentioned above, have a greater emphasis on supervisory and training tasks.

DAFSC 3E591. AFRES 9-skill level personnel represent 2 percent of the survey sample. Like their counterparts in the ANG group, the highest percent of group members are found in the Engineering Cluster (55 percent). Additionally, 35 percent of these members are working in the Supervisor Cluster, which is similar to their ANG and AD counterparts (see Table 6).

Table 26 lists the most time consuming tasks performed by these senior NCOs. Most of these involve supervisory, contingency, or core engineering functions. Table 27 shows those tasks which best differentiate the 7- and 9-skill levels. Again, as expected, the majority of the tasks in the table show a negative value, indicating that 9-skill level personnel are also performing essentially the same tasks performed at the 7-skill level, but as mentioned above have a greater emphasis on supervisory or management tasks.

Comparison Between Active Duty, Air National Guard, and Air Force Reserve Groups

Several noticeable differences were noted between the AD, ANG, and AFRES personnel. Table 6 shows that higher percentages of AD personnel concentrate on contract management activities while in the ANG and AFRES components, a heavy emphasis is placed on core engineering and mobility activities. ANG and AFRES personnel were clearly more involved with the core Engineering Job at the 5-, 7-, and 9-skill levels than their AD counterparts. Conversely, AD personnel at these skill levels were more involved with contract management. In the area of supervision, higher percentages of 5- and 7-skill level AD and AFRES personnel performed this function while almost none of the members from the ANG performed related activities. Only at the 9-skill level did three component groups reflect similar percentages of personnel in the Supervisor Job.

Summary

Progression in this career ladder for AD personnel follows a regular pattern of highly technical job focus at the lower skill levels, with a broadening into supervision and management at the 7- and 9-skill levels. An emphasis is clearly seen in performing primarily the core job of engineering at the 3- and 5-skill levels, with some broadening into supervisory functions at the 5-skill level. Craftsmen at the 7-skill level are beginning to shift to supervisory jobs, but a good deal of their job time is spent in the contract management arena. The 9-skill level personnel, for the most part, are managers of the career ladder, but still appear to be involved in contract management and engineering functions.

TABLE 6
DISTRIBUTION OF SKILL-LEVEL MEMBERS ACROSS SPECIALTY JOBS
(PERCENT RESPONDING)

| JOBS | DAFSC 3E531 | | | DAFSC 3E551 | | | |
|--|----------------|---------------|--|----------------|---------------|---------------|---------------|
| | ALL (N=147) | AD (N=147) | | ALL (N=478) | AD (N=317) | ANG (N=92) | RES (N=69) |
| I. ENTRY-LEVEL CADD DRAFTSMAN JOB (ST285, N=10) | 4 | 4 | | 1 | 1 | * | 1 |
| II. ENTRY-LEVEL DRAFTSMAN/SURVEYOR JOB (ST104, N=31) | 8 | 8 | | 4 | 3 | 10 | 1 |
| III. ENGINEERING CLUSTER (ST103, N=376) | 43 | 43 | | 38 | 31 | 52 | 54 |
| IV. MOBILITY CLUSTER (GP108, N=74) | 3 | 3 | | 10 | 3 | 23 | 25 |
| V. CONTRACT MANAGEMENT CLUSTER (ST029, N=265) | 15 | 15 | | 27 | 40 | * | * |
| VI. GROUND RADAR EVALUATORS JOB (ST315, N=7) | * | * | | 1 | 2 | * | * |
| VII. SUPERVISOR CLUSTER (ST052, N=72) | * | * | | 3 | 4 | * | 4 |
| NOT GROUPED | 27 | 27 | | 16 | 16 | 15 | 15 |

* Denotes less than 1 percent

TABLE 6 (CONTINUED)
DISTRIBUTION OF SKILL-LEVEL MEMBERS ACROSS SPECIALTY JOBS (PERCENT)

| JOBS | DAFSC 3E571 | | | | DAFSC 3E591 | | | |
|---|----------------|---------------|---------------|---------------|----------------|--------------|---------------|---------------|
| | ALL (N=318) | AD (N=209) | ANG (N=88) | RES (N=21) | ALL (N=63) | AD (N=11) | ANG (N=32) | RES (N=20) |
| I. ENTRY-LEVEL CADD DRAFTSMAN JOB (ST285, N=10) | * | * | * | * | * | * | * | * |
| II. ENTRY-LEVEL DRAFTSMAN/SURVEYOR JOB (ST104, N=31) | 1 | 1 | 1 | * | * | * | * | * |
| III. ENGINEERING CLUSTER (ST103, N=376) | 32 | 17 | 63 | 57 | 46 | 18 | 50 | 55 |
| IV. MOBILITY CLUSTER (GP108, N=74) | 7 | 1 | 18 | 24 | 2 | * | 3 | * |
| V. CONTRACT MANAGEMENT CLUSTER (ST029, N=265) | 35 | 52 | 3 | * | 6 | 27 | 3 | * |
| VI. GROUND RADAR EVALUATORS JOB (ST315, N=7) | * | 1 | * | * | * | * | * | * |
| VII. SUPERVISOR CLUSTER (ST052, N=72) | 11 | 15 | 1 | 14 | 33 | 36 | 31 | 35 |
| NOT GROUPED | 14 | 13 | 14 | 5 | 13 | 19 | 13 | 10 |

* Denotes less than 1 percent

TABLE 7
RELATIVE PERCENT OF TIME SPENT ON DUTIES BY
ACTIVE DUTY 3-SKILL LEVEL PERSONNEL**

| DUTIES | PERCENT TIME SPENT (N=147) |
|---|-------------------------------------|
| A ORGANIZING AND PLANNING | 5 |
| B DIRECTING AND IMPLEMENTING | 1 |
| C INSPECTING AND EVALUATING | 4 |
| D TRAINING | 1 |
| E PERFORMING GENERAL ADMINISTRATIVE ACTIVITIES | 6 |
| F PERFORMING SUPPLY AND EQUIPMENT ACTIVITIES | 5 |
| G PERFORMING SURVEYING ACTIVITIES | 16 |
| H PERFORMING MANUAL DRAFTING ACTIVITIES | 12 |
| I PERFORMING COMPUTER AIDED DESIGN AND DRAFTING (CADD) SYSTEM ACTIVITIES | 24 |
| J PERFORMING PROJECT PLANNING ACTIVITIES | 1 |
| K PERFORMING CONTRACT MANAGEMENT ACTIVITIES | 7 |
| L PERFORMING COST-ESTIMATE AND ANALYSIS ACTIVITIES | * |
| M PERFORMING MATERIAL TESTING | * |
| N PERFORMING GROUND RADAR EVALUATIONS | * |
| O PERFORMING ENGINEERING SPECIFIC CONTINGENCY ACTIVITIES | 7 |
| P PERFORMING GENERAL CONTINGENCY ACTIVITIES | 10 |

* Denotes less than 1 percent

** No ANG or AFRES 3-skill level personnel identified in this study

NOTE: Columns may not add exactly to 100 percent due to rounding

TABLE 8

RELATIVE PERCENT OF TIME SPENT ON DUTIES
BY MEMBERS OF 5-SKILL LEVEL GROUPS

| DUTIES | ACTIVE (N=317) | GUARD (N=92) | RESERVE (N=69) |
|---|-------------------|-----------------|-------------------|
| A ORGANIZING AND PLANNING | 6 | 4 | 6 |
| B DIRECTING AND IMPLEMENTING | 3 | 1 | 2 |
| C INSPECTING AND EVALUATING | 7 | 3 | 4 |
| D TRAINING | 4 | 2 | 4 |
| E PERFORMING GENERAL ADMINISTRATIVE ACTIVITIES | 6 | 2 | 3 |
| F PERFORMING SUPPLY AND EQUIPMENT ACTIVITIES | 3 | 2 | 3 |
| G PERFORMING SURVEYING ACTIVITIES | 10 | 24 | 18 |
| H PERFORMING MANUAL DRAFTING ACTIVITIES | 7 | 14 | 11 |
| I PERFORMING COMPUTER AIDED DESIGN AND DRAFTING (CADD) SYSTEM ACTIVITIES | 12 | 11 | 8 |
| J PERFORMING PROJECT PLANNING ACTIVITIES | 2 | 2 | 1 |
| K PERFORMING CONTRACT MANAGEMENT ACTIVITIES | 20 | 1 | 1 |
| L PERFORMING COST-ESTIMATE AND ANALYSIS ACTIVITIES | 1 | 1 | * |
| M PERFORMING MATERIAL TESTING | 1 | * | * |
| N PERFORMING GROUND RADAR EVALUATIONS | 1 | * | * |
| O PERFORMING ENGINEERING SPECIFIC CONTINGENCY ACTIVITIES | 7 | 13 | 14 |
| P PERFORMING GENERAL CONTINGENCY ACTIVITIES | 10 | 21 | 24 |

* Denotes less than 1 percent

NOTE: Columns may not add exactly to 100 percent due to rounding

TABLE 9

RELATIVE PERCENT OF TIME SPENT ON DUTIES
BY MEMBERS OF 7-SKILL LEVEL GROUPS

| DUTIES | ACTIVE (N=209) | GUARD (N=88) | RESERVE (N=21) |
|---|-------------------|-----------------|-------------------|
| A ORGANIZING AND PLANNING | 11 | 7 | 12 |
| B DIRECTING AND IMPLEMENTING | 6 | 4 | 6 |
| C INSPECTING AND EVALUATING | 12 | 4 | 7 |
| D TRAINING | 5 | 7 | 10 |
| E PERFORMING GENERAL ADMINISTRATIVE ACTIVITIES | 6 | 2 | 2 |
| F PERFORMING SUPPLY AND EQUIPMENT ACTIVITIES | 3 | 3 | 4 |
| G PERFORMING SURVEYING ACTIVITIES | 4 | 19 | 15 |
| H PERFORMING MANUAL DRAFTING ACTIVITIES | 4 | 13 | 7 |
| I PERFORMING COMPUTER AIDED DESIGN AND DRAFTING (CADD) SYSTEM ACTIVITIES | 5 | 7 | 3 |
| J PERFORMING PROJECT PLANNING ACTIVITIES | 2 | 2 | 1 |
| K PERFORMING CONTRACT MANAGEMENT ACTIVITIES | 25 | 3 | * |
| L PERFORMING COST-ESTIMATE AND ANALYSIS ACTIVITIES | 2 | 1 | * |
| M PERFORMING MATERIAL TESTING | 1 | * | * |
| N PERFORMING GROUND RADAR EVALUATIONS | * | * | * |
| O PERFORMING ENGINEERING SPECIFIC CONTINGENCY ACTIVITIES | 6 | 11 | 15 |
| P PERFORMING GENERAL CONTINGENCY ACTIVITIES | 7 | 18 | 19 |

* Denotes less than 1 percent

NOTE: Columns may not add exactly to 100 percent due to rounding

TABLE 10

RELATIVE PERCENT OF TIME SPENT ON DUTIES
BY MEMBERS OF 9-SKILL LEVEL GROUPS

| DUTIES | ACTIVE (N=11) | GUARD (N=32) | RESERVE (N=20) |
|---|------------------|-----------------|-------------------|
| A ORGANIZING AND PLANNING | 23 | 12 | 17 |
| B DIRECTING AND IMPLEMENTING | 11 | 10 | 9 |
| C INSPECTING AND EVALUATING | 17 | 9 | 11 |
| D TRAINING | 5 | 14 | 13 |
| E PERFORMING GENERAL ADMINISTRATIVE ACTIVITIES | 10 | 2 | 2 |
| F PERFORMING SUPPLY AND EQUIPMENT ACTIVITIES | 2 | 3 | 2 |
| G PERFORMING SURVEYING ACTIVITIES | 4 | 12 | 10 |
| H PERFORMING MANUAL DRAFTING ACTIVITIES | 4 | 9 | 6 |
| I PERFORMING COMPUTER AIDED DESIGN AND DRAFTING (CADD) SYSTEM ACTIVITIES | 3 | 2 | 3 |
| J PERFORMING PROJECT PLANNING ACTIVITIES | 1 | 2 | 1 |
| K PERFORMING CONTRACT MANAGEMENT ACTIVITIES | 12 | 2 | 1 |
| L PERFORMING COST-ESTIMATE AND ANALYSIS ACTIVITIES | 1 | 1 | * |
| M PERFORMING MATERIAL TESTING | * | * | * |
| N PERFORMING GROUND RADAR EVALUATIONS | * | * | * |
| O PERFORMING ENGINEERING SPECIFIC CONTINGENCY ACTIVITIES | 4 | 10 | 11 |
| P PERFORMING GENERAL CONTINGENCY ACTIVITIES | 4 | 14 | 13 |

* Denotes less than 1 percent

NOTE: Columns may not add exactly to 100 percent due to rounding

TABLE 11

REPRESENTATIVE TASKS PERFORMED BY ACTIVE DUTY DAFSC 3E531 PERSONNEL

| TASKS | PERCENT MEMBERS PERFORMING (N=147) |
|--|---|
| H341 Reproduce drawings | 70 |
| I363 Perform fundamental drafting practices, such as dimensioning, line weights, or sheet layouts using CADD system | 64 |
| H307 Interpret blueprints | 64 |
| I360 Maintain computer drawing files | 63 |
| I343 Complete civil plans using CADD system | 60 |
| I365 Update as-built drawings using CADD system | 59 |
| I342 Complete architectural plans using CADD system | 59 |
| H308 Interpret engineering sketches | 59 |
| I350 Develop modifications from existing drawings using CADD system | 57 |
| G306 Set up surveying equipment | 56 |
| I344 Complete electrical plans using CADD system | 55 |
| I346 Complete structural plans using CADD system | 54 |
| H312 Maintain drawing files, other than computer drawing files | 53 |
| I345 Complete mechanical plans using CADD system | 53 |
| G289 Measure horizontal distances using tapes | 53 |
| O549 Plot airfield damage assessments | 52 |
| O545 Perform airfield damage assessments | 51 |
| I366 Update record drawings using CADD system | 50 |
| O535 Identify and report suspected unexploded ordnance (UXO) | 50 |
| I356 Draw charts using CADD system | 49 |
| G283 Manually input field data into CADD system | 46 |
| G286 Measure horizontal distances using electronic equipment | 46 |
| A30 Participate in general meetings, such as staff meetings, briefings, conferences, and workshops, other than conducting | 41 |
| H335 Manually update as-built drawings | 41 |
| I361 Measure irregular lines using CADD system | 39 |
| I352 Draft preliminary designs for civil plans using CADD system | 39 |
| I351 Draft preliminary designs for architectural plans using CADD system | 39 |
| I353 Draft preliminary designs for electrical plans using CADD system | 36 |
| C89 Evaluate drawings or engineering plans for accuracy | 35 |
| E205 Pick up or deliver messages | 33 |
| I364 Revise BCPs using CADD system | 31 |

*Average Number of Tasks Performed - 66

TABLE 12

REPRESENTATIVE TASKS PERFORMED BY ACTIVE DUTY DAFSC 3E551 PERSONNEL

| TASKS | PERCENT MEMBERS PERFORMING (N=317) |
|---|---|
| H307 Interpret blueprints | 65 |
| H341 Reproduce drawings | 60 |
| O545 Perform airfield damage assessments | 60 |
| A30 Participate in general meetings such as staff meetings, briefings, conferences, and workshops, other than conducting | 59 |
| O551 Select MOS candidates | 57 |
| H308 Interpret engineering sketches | 56 |
| P568 Don or doff chemical warfare personal protective clothing | 56 |
| O549 Plot airfield damage assessments | 56 |
| O529 Compute repair quality criteria (RQC) for rapid runway repairs (RRRs) | 56 |
| C89 Evaluate drawings or engineering plans for accuracy | 54 |
| P574 Erect tents | 52 |
| O542 Lay out minimum operating strip (MOS) centerlines | 51 |
| I360 Maintain computer drawing files | 48 |
| I363 Perform fundamental drafting practices, such as dimensioning, line weights, or sheet layouts using CADD system | 48 |
| G306 Set up surveying equipment | 47 |
| I342 Complete architectural plans using CADD system | 45 |
| I350 Develop modifications from existing drawings using CADD system | 44 |
| K413 Maintain records of contract changes | 43 |
| I343 Complete civil plans using CADD system | 42 |
| I365 Update as-built drawings using CADD system | 41 |
| K387 Conduct daily on-site visits | 40 |
| K407 Identify contractor performance discrepancies | 40 |
| I356 Draw charts using CADD system | 39 |
| C87 Evaluate contractor compliance with work standards | 38 |
| H312 Maintain drawing files, other than computer drawing files | 38 |
| D125 Conduct on-the-job training (OJT) | 38 |
| E195 Maintain daily inspection records | 36 |
| I344 Complete electrical plans using CADD system | 36 |
| I345 Complete mechanical plans using CADD system | 36 |
| I366 Update record drawings using CADD system | 35 |
| K412 Inspect and record construction projects for compliance with plans and specifications | 35 |

*Average Number of Tasks Performed - 83

TABLE 13

TASKS WHICH BEST DIFFERENTIATE BETWEEN
ACTIVE DUTY DAFSC 3E531 AND DAFSC 3E551 PERSONNEL
(PERCENT MEMBERS PERFORMING)

| TASKS | 3E531 (N=147) | 3E551 (N=317) | DIFFERENCE |
|---|------------------|------------------|------------|
| I346 Complete structural plans using CADD system | 54 | 34 | +20 |
| I344 Complete electrical plans using CADD system | 55 | 36 | +19 |
| I365 Update as-built drawings using CADD system | 59 | 41 | +18 |
| I343 Complete civil plans using CADD system | 60 | 42 | +18 |
| I345 Complete mechanical plans using CADD system | 53 | 36 | +17 |
| I363 Perform fundamental drafting practices, such as dimensioning, line weights, or sheet layouts using CADD system | 64 | 48 | +16 |
| H310 Letter drawings using free-hand style | 46 | 30 | +16 |
| I360 Maintain computer drawing files | 63 | 48 | +16 |
| G257 Compute azimuths and bearings | 37 | 22 | +15 |
| I366 Update record drawings using CADD system | 50 | 35 | +15 |
| K413 Maintain records of contract change | 16 | 43 | -27 |
| K396 Coordinate work clearance requests with appropriate agencies | 8 | 35 | -27 |
| K387 Conduct daily on-site visits | 16 | 40 | -25 |
| K407 Identify contractor performance discrepancies | 16 | 40 | -24 |
| K386 Conduct contract final acceptance inspections | 10 | 34 | -24 |
| E195 Maintain daily inspection records | 12 | 36 | -24 |
| K401 Evaluate data on AF Forms 3000 (Material Approval Submittal) | 7 | 30 | -23 |
| K417 Participate in preperformance conferences | 12 | 35 | -23 |
| K410 Inspect and record construction activities compliance with safety regulations or procedures | 10 | 33 | -23 |
| K389 Coordinate construction with appropriate agencies | 7 | 31 | -23 |

TABLE 14

REPRESENTATIVE TASKS PERFORMED BY ACTIVE DUTY DAFSC 3E571 PERSONNEL

| TASKS | PERCENT MEMBERS PERFORMING (N=209) |
|---|---|
| A30 Participate in general meetings, such as staff meetings, briefings, conferences, and workshops, other than conducting | 75 |
| C87 Evaluate contractor compliance with work standards | 54 |
| K387 Conduct daily on-site visits | 50 |
| C89 Evaluate drawings or engineering plans for accuracy | 62 |
| K407 Identify contractor performance discrepancies | 55 |
| K412 Inspect and record construction projects for compliance with plans and specifications | 47 |
| A7 Determine or establish work priorities | 57 |
| H307 Interpret blueprints | 61 |
| E195 Maintain daily inspection records | 43 |
| E187 Initiate electronic mail (E-mail) | 49 |
| K401 Evaluate data on AF Forms 3000 (Material Approval Submittal) | 47 |
| K398 Document construction activities | 45 |
| K413 Maintain records of contract changes | 52 |
| A12 Develop or establish work methods or procedures | 55 |
| E170 Compile information for records, reports, or logs | 40 |
| K389 Coordinate construction with appropriate agencies | 46 |
| K408 Identify on-site or design deficiencies | 51 |
| L439 Compare government cost-estimates with contractor cost-estimates | 44 |
| C90 Evaluate drawings or engineering plans for constructibility | 51 |
| K386 Conduct contract final acceptance inspections | 47 |
| J376 Estimate cost-elements, such as materials, equipment, or labor | 41 |
| O551 Select MOS candidates | 61 |
| J375 Draft or write statements of work (SOWs) | 38 |
| C105 Evaluate project specifications | 43 |
| C116 Write EPRs | 55 |
| K410 Inspect and record construction activities compliance with safety regulations or procedures | 46 |
| K403 Evaluate data on AF Forms 3065 | 45 |

*Average Number of Tasks Performed - 109

TABLE 15

TASKS WHICH BEST DIFFERENTIATE BETWEEN ACTIVE DUTY
DAFSC 3E551 AND DAFSC 3E571 PERSONNEL
(PERCENT MEMBERS PERFORMING)

| TASKS | 3E551 (N=317) | 3E571 (N=209) | DIFFERENCE |
|---|------------------|------------------|------------|
| I363 Perform fundamental drafting practices, such as dimensioning, line weights, or sheet layouts using CADD system | 48 | 28 | +20 |
| I342 Complete architectural plans using CADD system | 45 | 26 | +19 |
| I360 Maintain computer drawing files | 48 | 29 | +19 |
| G289 Measure horizontal distances using tapes | 45 | 27 | +18 |
| G306 Set-up surveying equipment | 47 | 29 | +18 |
| I352 Draft preliminary designs for civil plans using CADD system | 37 | 20 | +17 |
| H341 Reproduce drawings | 60 | 43 | +17 |
| I343 Complete civil plans using CADD system | 42 | 26 | +16 |
| I356 Draw charts using CADD system | 39 | 23 | +16 |
| I346 Complete structural plans using CADD system | 34 | 18 | +16 |
| C18 Write recommendations for awards and decorations | 15 | 49 | -34 |
| C116 Write EPRs | 20 | 55 | -34 |
| C78 Conduct performance feedback evaluation sessions | 18 | 52 | -34 |
| C102 Evaluate personnel for compliance with performance standards | 16 | 50 | -33 |
| A24 Establish performance standards for subordinates | 18 | 51 | -33 |
| C103 Evaluate personnel for promotion, demotion, reclassification, or special awards | 11 | 43 | -32 |
| A1 Assign personnel to work areas or duty positions, other than mobility positions | 12 | 43 | -30 |
| B49 Conduct supervisory orientations of newly assigned personnel | 11 | 41 | -30 |
| C111 Inspect personnel for compliance with military standards | 16 | 45 | -30 |
| B50 Counsel subordinates on personal matters | 22 | 51 | -29 |

TABLE 16

REPRESENTATIVE TASKS PERFORMED BY ACTIVE DUTY DAFSC 3E591 PERSONNEL

| TASKS | PERCENT MEMBERS PERFORMING (N=11) |
|--|--|
| A30 Participate in general meetings, such as staff meetings, briefings, conferences, and workshops, other than conducting | 91 |
| A34 Plan or prepare briefings, conferences, or workshops | 91 |
| E187 Initiate electronic mail (E-mail) | 82 |
| A7 Determine or establish work priorities | 82 |
| A35 plan or schedule work assignments or priorities | 82 |
| A23 Establish organizational policies, such as operating instructions (OIs) or standard operating procedures (SOPs) | 82 |
| A40 Prepare agenda for general meetings, such as staff meetings, briefings, conferences, or workshops | 73 |
| A28 Establish work schedules | 73 |
| C97 Evaluate logistics requirements, such as personnel, equipment, space, tools, or supplies | 73 |
| A19 Establish administrative files | 73 |
| A12 Develop or establish work methods or procedures | 73 |
| C118 Write recommendations for awards or decorations | 73 |
| C116 Write EPRs | 73 |
| H307 Interpret blueprints | 73 |
| B49 Conduct supervisory orientations of newly assigned personnel | 73 |
| C120 Write staff studies, surveys, or special reports, other than training reports | 64 |
| A5 Determine logistics requirements, such as personnel, equipment, space, or supplies, other than contingency requirements | 64 |
| E217 Write minutes of briefings, meeting, or conferences | 64 |
| A42 Review drafts of regulations, manuals, or other directives | 55 |
| C105 Evaluate project specifications | 55 |
| A13 Develop organizational or functional charts | 55 |
| B48 Conduct general staff meetings or briefings | 55 |
| E170 Compile information for records, reports, or logs | 45 |
| A39 plan status boards, charts, or graphs | 45 |
| B75 Supervise military personnel with AFSCs other than AFSC 3E5X1 | 45 |
| E171 Compile statistics on trend analysis | 36 |
| B55 Draft supplements or changes to regulations, manuals, or other directives | 18 |

*Average Number of Tasks Performed - 133

TABLE 17

TASKS WHICH BEST DIFFERENTIATE BETWEEN ACTIVE DUTY
DAFSC 3E571 AND DAFSC 3E591 PERSONNEL
(PERCENT MEMBERS PERFORMING)

| TASKS | 3E571 (N=209) | 3E591 (N=11) | DIFFERENCE |
|---|------------------|-----------------|------------|
| O549 Plot airfield damage assessments | 57 | 18 | +39 |
| O551 Select MOS candidates | 61 | 27 | +33 |
| P574 Erect tents | 48 | 18 | +30 |
| K403 Evaluate data on AF Forms 3065 | 45 | 18 | +27 |
| O545 Perform airfield damage assessments | 53 | 27 | +25 |
| D125 Conduct on-the-job training (OJT) | 53 | 27 | +25 |
| E192 Maintain administrative files | 34 | 9 | +25 |
| K413 Maintain records of contract changes | 52 | 27 | +25 |
| O543 Lay out taxiway and runway traffic markings | 33 | 9 | +24 |
| O42 Lay out minimum operating strip (MOS) centerlines | 50 | 27 | +23 |
| A34 Plan or prepare briefings, conferences, or workshops | 39 | 91 | -52 |
| C97 Evaluate logistics requirements, such as personnel, equipment, space, tools, or supplies | 24 | 73 | -48 |
| B66 Initiate personnel action requests | 17 | 64 | -46 |
| C120 Write staff studies, surveys, or special reports, other than training reports | 18 | 64 | -46 |
| B54 Draft recommendations for policy changes in logistics requirements, such as personnel, equipment, space or supplies | 19 | 64 | -46 |
| C115 Write civilian performance appraisals | 11 | 55 | -44 |
| B57 Implement cost-reduction programs | 11 | 55 | -44 |
| A23 Establish organizational policies, such as operating instructions (OIs) or standard operating procedures (SOPs) | 39 | 82 | -43 |
| B65 Initiate actions required due to substandard performances of personnel | 32 | 73 | -41 |
| C112 Investigate accidents or incidents | 14 | 55 | -40 |

TABLE 18

REPRESENTATIVE TASKS PERFORMED BY GUARD DAFSC 3E551 PERSONNEL

| TASKS | PERCENT MEMBERS PERFORMING (N=92) |
|---|--|
| G306 Set up surveying equipment | 84 |
| P574 Erect tents | 78 |
| H307 Interpret blueprints | 76 |
| G289 Measure horizontal distances using tapes | 73 |
| H341 Reproduce drawings | 72 |
| P579 Inspect mobility bags or kits | 70 |
| H310 Letter drawings using free-hand style | 68 |
| P576 Identify bomb damage locations | 65 |
| G280 Maintain surveying equipment | 65 |
| G303 Record field notes using standard surveying procedures | 65 |
| O545 Perform airfield damage assessments | 64 |
| G256 Communicate using standardized hand signals | 64 |
| O549 Plot airfield damage assessments | 63 |
| P568 Don or doff chemical warfare personal protective clothing | 61 |
| H312 Maintain drawing files, other than computer drawing files | 61 |
| O542 Lay out minimum operating strip (MOS) centerlines | 61 |
| H308 Interpret engineering sketches | 59 |
| G287 Measure horizontal distances using pacing techniques | 58 |
| I356 Draw charts using CADD system | 57 |
| O551 Select MOS candidates | 57 |
| O546 Perform crater layout surveys | 55 |
| P598 Operate vehicle during contingency exercises or operations | 55 |
| P638 Tear down, inspect, clean, and reassemble weapons | 51 |
| I363 Perform fundamental drafting practices, such as dimensioning, line weights, or sheet layouts using CADD system | 50 |
| I342 Complete architectural plans using CADD system | 49 |
| I343 Complete civil plans using CADD system | 49 |
| O535 Identify and report suspected unexploded ordnance (UXO) | 48 |
| I360 Maintain computer drawing files | 48 |
| P261 Practice base recovery after attack (BRAT) concepts | 47 |
| O529 Compute repair quality criteria (RQC) for rapid runway repairs (RRRs) | 47 |
| A30 Participate in general meetings, such as staff meetings, briefings, conferences, and workshops, other than conducting | 40 |

*Average Number of Tasks Performed - 84

TABLE 19

REPRESENTATIVE TASKS PERFORMED BY GUARD DAFSC 3E571 PERSONNEL

| TASKS | PERCENT MEMBERS PERFORMING (N=88) |
|--|--|
| G306 Set up surveying equipment | 90 |
| P579 Inspect mobility bags or kits | 78 |
| P574 Erect tents | 83 |
| P568 Don or doff chemical warfare personal protective clothing | 69 |
| H307 Interpret blueprints | 85 |
| H341 Reproduce drawings | 84 |
| G289 Measure horizontal distances using tapes | 81 |
| O542 Lay out minimum operating strip (MOS) centerlines | 75 |
| A30 Participate in general meetings, such as staff meetings, briefings, conferences, and workshops, other than conducting | 74 |
| H310 Letter drawings using free-hand style | 75 |
| O545 Perform airfield damage assessments | 76 |
| D125 Conduct on-the-job training (OJT) | 75 |
| H308 Interpret engineering sketches | 74 |
| P576 Identify bomb crater damage locations | 70 |
| O551 Select MOS candidates | 74 |
| P621 Practice base recovery after attack (BRAT) concepts | 68 |
| O529 Compute repair quality criteria (RQC) for rapid runway repairs (RRRs) | 66 |
| O549 Plot airfield damage assessments | 72 |
| H312 Maintain drawing files, other than computer drawing files | 69 |
| P595 Operate portable radios, such as field radios during contingency exercises or operations | 61 |
| G300 Perform topographic surveys | 65 |
| G280 Maintain surveying equipment | 72 |
| P598 Operate vehicles during contingency exercises or operations | 67 |
| O546 perform crater layout surveys | 67 |
| B72 Supervise Engineering Apprentices (AFSC 3E531) | 51 |
| O535 Identify and report suspected unexploded ordnance (UXO) | 65 |
| G285 Measure horizontal angles | 64 |
| G303 Record field notes using standard surveying procedures | 70 |
| I360 Maintain computer drawing files | 49 |
| P638 Tear down, inspect, clean, and reassemble weapons | 63 |
| G305 Set grade stakes | 72 |
| O547 Perform crater profile measurements (CPMs) | 59 |

* Average Number of Tasks Performed - 126

TABLE 20

TASKS WHICH BEST DIFFERENTIATE BETWEEN GUARD
DAFSC 3E551 AND DAFSC 3E571 PERSONNEL
(PERCENT MEMBERS PERFORMING)

| TASKS | 3E551 (N=92) | 3E571 (N=88) | DIFFERENCE |
|--|-----------------|-----------------|------------|
| D125 Conduct on-the-job training (OJT) | 29 | 75 | -46 |
| B73 Supervise Engineering Journeymen (AFSC 3E551) | 4 | 49 | -45 |
| B68 Interpret engineering plans for subordinates | 16 | 55 | -38 |
| D153 Evaluate progress of trainees | 4 | 40 | -36 |
| B72 Supervise Engineering Apprentice (AFSC 3E531) | 16 | 51 | -35 |
| A12 Develop or establish work methods or procedures | 10 | 44 | -34 |
| D157 Maintain training records, charts, graphs, or files | 10 | 44 | -34 |
| D132 Counsel trainees on training progress | 5 | 39 | -34 |
| O533 Develop camp cantonment layouts | 28 | 62 | -34 |
| A30 Participate in general meetings, such as staff meetings, briefings, conferences, and workshops, other than conducting | 40 | 74 | -34 |
| A28 Establish work schedules | 5 | 38 | -33 |
| A35 Plan or schedule work assignments or priorities | 8 | 40 | -32 |
| D134 Determine OJT requirements | 4 | 34 | -30 |
| C103 Evaluate personnel for promotion, demotion, reclassification, or special awards | 2 | 32 | -30 |
| H331 Manually draw structural plans | 26 | 47 | -21 |
| H311 Letter drawings using mechanical lettering sets | 28 | 49 | -21 |
| A24 Establish performance standards for subordinates | 6 | 27 | -21 |
| F232 Initiate requisitions for equipment, tools, or supplies, other than for local purchase | 11 | 32 | -21 |
| H325 Manually draw civil plans | 36 | 57 | -21 |
| O532 Develop base denial plans | 14 | 35 | -21 |

TABLE 21

REPRESENTATIVE TASKS PERFORMED BY GUARD DAFSC 3E591 PERSONNEL

| TASKS | | PERCENT MEMBERS PERFORMING (N=32) |
|-------|---|--|
| C103 | Evaluate personnel for promotion, demotion, reclassification, or special awards | 88 |
| O549 | Plot airfield damage assessments | 88 |
| H307 | Interpret blueprints | 88 |
| O551 | Select MOS candidates | 88 |
| O542 | Lay out minimum operating strip (MOS) centerlines | 88 |
| B73 | Supervise Engineering Apprentices (AFSC 3E531) | 84 |
| B73 | Supervise Engineering Journeymen (AFSC 3E551) | 84 |
| A7 | Determine or establish work priorities | 84 |
| D125 | Conduct on-the-job training | 81 |
| H341 | Reproduce drawings | 81 |
| A1 | Assign personnel to work areas or duty positions, other than mobility positions | 78 |
| O545 | Perform airfield damage assessments | 78 |
| B74 | Supervise Engineering Craftsmen (3E571) | 75 |
| P595 | Operate portable radios, such as field radios during contingency exercises or operations | 75 |
| H308 | Interpret engineering sketches | 75 |
| P574 | Erect tents | 75 |
| B68 | Interpret engineering plans for subordinates | 72 |
| O546 | Perform crater layout surveys | 72 |
| A30 | Participate in general meetings, such as staff meetings, briefings, conferences, and workshops, other than conducting | 69 |
| P568 | Don or doff chemical warfare personal protective clothing | 69 |
| P576 | Identify bomb crater damage locations | 69 |
| O529 | Compute repair quality criteria (RQC) for rapid runway repair (RRRs) | 69 |
| A35 | Plan or schedule work assignments or priorities | 66 |
| C111 | Inspect personnel for compliance with military standards | 66 |
| A28 | Establish work schedules | 66 |
| D132 | Counsel trainees on training progress | 59 |
| P621 | Practice base recovery after attack (BRAT) concepts | 59 |
| D157 | Maintain training records, charts, graphs, or files | 59 |
| A12 | Develop or establish work methods or procedures | 59 |
| D165 | Verify personnel CDC enrollments | 56 |
| D153 | Evaluate progress of trainees | 53 |

*Average Number of Tasks Performed - 126

TABLE 22

TASKS WHICH BEST DIFFERENTIATE BETWEEN GUARD
DAFSC 3E571 AND DAFSC 3E591 PERSONNEL
(PERCENT MEMBERS PERFORMING)

| TASKS | 3E571 (N=88) | 3E591 (N=32) | DIFFERENCE |
|---|-----------------|-----------------|------------|
| I343 Complete civil plans using CADD system | 57 | 25 | +32 |
| G283 Manually input field data into CADD system | 51 | 25 | +26 |
| I350 Develop modifications from existing drawings using CADD system | 45 | 22 | +24 |
| H309 Letter drawings using electronic labeling machines | 51 | 28 | +23 |
| I363 Perform fundamental drafting practices, such as dimensioning, line weights, or sheet layouts using CADD system | 47 | 25 | +22 |
| P599 Palletize equipment for deployments | 43 | 22 | +21 |
| P629 Repair bomb craters | 33 | 13 | +20 |
| C103 Evaluate personnel for promotion, demotion, reclassification, or special awards | 32 | 88 | -56 |
| B74 Supervise Engineering Craftsmen (AFSC 3E571) | 25 | 75 | -50 |
| D163 Select OJT trainers or certifiers | 14 | 63 | -49 |
| A7 Determine or establish work priorities | 42 | 84 | -42 |
| A1 Assign personnel to work areas or duty positions, other than mobility positions | 38 | 78 | -41 |
| A2 Assign sponsors for newly assigned personnel | 16 | 56 | -40 |
| B50 Counsel subordinates on personal matters | 28 | 66 | -37 |
| C111 Inspect personnel for compliance with military standards | 30 | 66 | -36 |
| B73 Supervise Engineering Journeymen (AFSC 3E551) | 49 | 84 | -36 |
| D165 Verify personnel CDC enrollments | 22 | 56 | -35 |
| B49 Conduct supervisory orientations of newly assigned personnel | 25 | 59 | -34 |
| B72 Supervise Engineering Apprentices (AFSC 3E531) | 51 | 84 | -33 |
| C102 Evaluate personnel for compliance with performance standards | 27 | 59 | -32 |

TABLE 23

REPRESENTATIVE TASKS PERFORMED BY RESERVE DAFSC 3E551 PERSONNEL

| TASKS | PERCENT MEMBERS PERFORMING (N=69) |
|---|--|
| P574 Erect tents | 80 |
| O545 Perform airfield damage assessments | 75 |
| G306 Set up surveying equipment | 75 |
| O549 Plot airfield damage assessments | 74 |
| H307 Interpret blueprints | 72 |
| H308 Interpret engineering sketches | 72 |
| O542 Layout minimum operating strip (MOS) centerlines | 72 |
| G289 Measure horizontal distances using tapes | 72 |
| P568 Don or doff chemical warfare personal protective clothing | 71 |
| P576 Identify bomb crater damage locations | 70 |
| O546 perform crater layout surveys | 68 |
| O535 Identify and report suspected unexploded ordnance (UXO) | 68 |
| O551 Select MOS candidates | 67 |
| H310 Letter drawings using free-hand style | 67 |
| P638 Tear down, inspect, clean, and reassemble weapons | 64 |
| O529 Compute repair quality criteria (RQC) for rapid runway repairs (RRRs) | 64 |
| P631 Report base damage | 62 |
| O547 Perform crater profile measurements (CPMs) | 61 |
| G305 Set grade stakes | 61 |
| P579 Inspect mobility bags or kits | 59 |
| O530 Conduct mobility exercises or deployment site surveys | 59 |
| H341 Reproduce drawings | 58 |
| O533 Develop camp cantonment layouts | 58 |
| P621 Practice base recovery after attack (BRAT) concepts | 58 |
| P600 Participate in convoy exercises | 55 |
| O531 Develop bare base plans | 55 |
| P595 Operate portable radios, such as field radios during contingency exercises or operations | 54 |
| G256 Communicate using standardized hand signals | 54 |
| A30 Participate in general meetings, such as staff meetings, briefings, conferences, and workshops, other than conducting | 48 |
| P570 Erect bare base structures | 43 |
| I356 Draw charts using CADD system | 42 |
| F235 Inventory equipment, tools, or supplies | 41 |

*Average Number of Tasks Performed - 97

TABLE 24

REPRESENTATIVE TASKS PERFORMED BY RESERVE DAFSC 3E571 PERSONNEL

| TASKS | PERCENT MEMBERS PERFORMING (N=21) |
|---|--|
| O545 Perform airfield damage assessments | 90 |
| O549 Plot airfield damage assessments | 90 |
| O542 Layout minimum operating strip (MOS) centerlines | 90 |
| O535 Identify and report suspected unexploded ordnance (UXO) | 90 |
| P574 Erect tents | 86 |
| H307 Interpret blueprints | 86 |
| P576 Identify bomb crater damage locations | 86 |
| G306 Set up surveying equipment | 81 |
| P568 Don or doff chemical warfare personal protective clothing | 81 |
| O551 Select MOS candidates | 81 |
| G289 Measure horizontal distances using tapes | 76 |
| O529 Compute repair quality criteria (RQC) for rapid runway repairs (RRRs) | 76 |
| P621 Practice base recovery after attack (BRAT) concepts | 71 |
| P600 Participate in convoy exercises | 71 |
| P595 Operate portable radios, such as field radios during contingency exercises or operations | 71 |
| G256 Communicate using standardized hand signals | 71 |
| H308 Interpret engineering sketches | 67 |
| H310 Letter drawings using free-hand style | 67 |
| P638 Tear down, inspect, clean, and reassemble weapons | 67 |
| O547 Perform crater profile measurements (CPMs) | 67 |
| G305 Set grade stakes | 67 |
| O530 Conduct mobility exercises or deployment site surveys | 67 |
| O533 Develop camp cantonment layouts | 67 |
| O531 Develop bare base plans | 67 |
| A30 Participate in general meetings, such as staff meetings, briefings, conferences, and workshops, other than conducting | 67 |
| F235 Inventory equipment, tools, or supplies | 67 |
| O546 Perform crater layout surveys | 62 |
| P579 Inspect mobility bags or kits | 62 |
| H341 Reproduce drawings | 57 |
| P570 Erect bare base structures | 52 |
| P631 Report base damage | 43 |

* Average Number of Tasks Performed - 125

TABLE 25

TASKS WHICH BEST DIFFERENTIATE BETWEEN RESERVE
DAFSC 3E551 AND DAFSC 3E571 PERSONNEL
(PERCENT MEMBERS PERFORMING)

| TASKS | 3E551 (N=69) | 3E571 (N=21) | DIFFERENCE |
|--|-----------------|-----------------|------------|
| G283 Manually input field data into CADD system | 48 | 14 | +34 |
| G288 Measure horizontal distances using stadia | 51 | 24 | +27 |
| H317 Manually draft architectural renderings | 25 | - | +25 |
| H318 Manually draft engineering sketches for architectural plans | 43 | 19 | +24 |
| I366 Update record drawings using CADD system | 29 | 5 | +25 |
| I342 Complete architectural plans using CADD system | 49 | 29 | +21 |
| B73 Supervise Engineering Journeymen (AFSC 3E551) | 20 | 67 | -46 |
| A1 Assign personnel to work areas or duty positions, other than mobility positions | 17 | 62 | -45 |
| B50 Counsel subordinates on personal matters | 9 | 52 | -44 |
| D162 Review STSs | 16 | 52 | -36 |
| D157 Maintain training records, charts, graphs, or files | 26 | 62 | -36 |
| C102 Evaluate personnel for compliance with performance standards | 7 | 43 | -36 |
| D125 Conduct on-the-job training (OJT) | 41 | 76 | -36 |
| A24 Establish performance standards for subordinates | 14 | 48 | -33 |
| A36 Plan personnel or equipment deployments | 10 | 43 | -33 |
| A28 Establish work schedules | 17 | 48 | -31 |
| D158 Plan or schedule training, such as OJT, proficiency training, orientation training, or ancillary training | 13 | 43 | -30 |
| B72 Supervise Engineering Apprentices (AFSC 3E531) | 33 | 62 | -29 |
| B49 Conduct supervisory orientations of newly assigned personnel | 10 | 38 | -28 |

TABLE 26

REPRESENTATIVE TASKS PERFORMED BY RESERVE DAFSC 3E591 PERSONNEL

| TASKS | PERCENT MEMBERS PERFORMING (N=20) |
|---|--|
| C103 Evaluate personnel for promotion, demotion, reclassification, or special awards | 95 |
| O551 Select MOS candidates | 95 |
| A30 Participate in general meetings, such as staff meetings, briefings, conferences, and workshops, other than conducting | 95 |
| O549 Plot airfield damage assessments | 90 |
| A7 Determine or establish work priorities | 90 |
| B68 Interpret engineering plans for subordinates | 90 |
| O529 Compute repair quality criteria (RQC) for rapid runway repair (RRRs) | 90 |
| H307 Interpret blueprints | 85 |
| O542 Lay out minimum operating strip (MOS) centerlines | 85 |
| A1 Assign personnel to work areas or duty positions, other than mobility positions | 85 |
| P621 Practice base recovery after attack (BRAT) concepts | 85 |
| A12 Develop or establish work methods or procedures | 85 |
| B73 Supervise Engineering Journeymen (AFSC 3E551) | 80 |
| B74 Supervise Engineering Craftsmen (3E571) | 80 |
| H308 Interpret engineering sketches | 80 |
| P568 Don or doff chemical warfare personal protective clothing | 80 |
| P576 Identify bomb crater damage locations | 80 |
| A35 Plan or schedule work assignments or priorities | 80 |
| A28 Establish work schedules | 80 |
| C111 Inspect personnel for compliance with military standards | 75 |
| D132 Counsel trainees on training progress | 75 |
| B73 Supervise Engineering Apprentices (AFSC 3E531) | 70 |
| P595 Operate portable radios, such as field radios during contingency exercises or operations | 70 |
| D125 Conduct on-the-job training | 65 |
| O546 Perform crater layout surveys | 65 |
| J372 Draft or write materials takeoffs | 65 |
| D153 Evaluate progress of trainees | 65 |
| D152 Evaluate personnel for training needs | 55 |
| P574 Erect tents | 90 |

* Average Number of Tasks Performed - 139

TABLE 27

TASKS WHICH BEST DIFFERENTIATE BETWEEN RESERVE
DAFSC 3E571 AND DAFSC 3E591 PERSONNEL
(PERCENT MEMBERS PERFORMING)

| TASKS | 3E571 (N=21) | 3E591 (N=20) | DIFFERENCE |
|--|-----------------|-----------------|------------|
| G256 Communicate using standardized hand signals | 71 | 45 | +26 |
| P637 Tear down bare base structures | 48 | 25 | +23 |
| D157 Maintain training records, charts, graphs, or files | 62 | 40 | +22 |
| D543 Lay out taxiway and runway traffic markings | 76 | 55 | +21 |
| D163 Select OJT trainers or certifiers | 14 | 80 | -66 |
| C103 Evaluate personnel for promotion, demotion, reclassification, or special awards | 33 | 95 | -62 |
| B74 Supervise Engineering Craftsmen (AFSC 3E571) | 19 | 80 | -61 |
| C76 Analyze workload requirements | 14 | 75 | -61 |
| C118 Write recommendations for awards or decorations | 24 | 80 | -56 |
| A35 Plan or schedule work assignments or priorities | 33 | 80 | -47 |
| C108 Evaluate work schedules | 19 | 65 | -46 |
| C111 Inspect personnel for compliance with military standards | 33 | 75 | -42 |
| J372 Draft or write materials takeoffs | 24 | 65 | -41 |
| A2 Assign sponsors for newly assigned personnel | 24 | 65 | -41 |
| D164 Select or schedule personnel for upgrade or specialized training classes | 24 | 65 | -41 |
| D152 Evaluate personnel to determine training needs | 14 | 55 | -41 |
| A7 Determine or establish work priorities | 52 | 90 | -38 |
| A12 Develop or establish work methods or procedures | 48 | 85 | -37 |
| C89 Evaluate drawings or engineering plans for accuracy | 43 | 80 | -37 |
| C102 Evaluate personnel for compliance with performance standards | 43 | 80 | -37 |

ANALYSIS OF AFMAN 36-2108 *SPECIALTY DESCRIPTION*

Survey data were compared to the AFMAN 36-2108 *Specialty Description* for Engineering, dated 31 October 1993. The overall specialty description for the 3-, 5-, 7- and 9-skill levels accurately describes the technical and supervisory nature of jobs at the various skill levels. The description also reflects the primary tasks and responsibilities discussed in the **SPECIALTY JOBS** section of this report. The specialty description should be carefully reviewed against the job structure described in the **SPECIALTY JOBS** section of this OSR to ensure all technical and support functions are adequately covered.

TRAINING ANALYSIS

Occupational survey data are one of many sources of information which can be used to assist in the development of a training program relevant to the needs of personnel in their first enlistment. Factors which may be used in evaluating training include the overall description of the job being performed by first-enlistment personnel and their overall distribution across career ladder jobs, percentages of first-job (1-24 months TAFMS) or first-enlistment (1-48 months TAFMS) members performing specific tasks, as well as TE and TD ratings (previously explained in the **SURVEY METHODOLOGY** section).

Active Duty First-Enlistment Personnel

In this study, there are 191 AD members in their first enlistment (1-48 months TAFMS), representing 19 percent of the total survey sample. Most of their duty time is spent on technical activities involving the reproduction of drawings, performing fundamental drafting practices, and maintaining computer drawing files. Table 28 displays the relative percent of time spent on duties by first-enlistment personnel. Reviewing the table, it is clearly evident that most first-enlistment personnel are primarily performing tasks under Duty I (Performing Computer Aided Design and Drafting (CADD) System Activities), Duty G (Performing Surveying Activities), Duty H (Performing Manual Drafting Activities), and Duty P (Performing General Contingency Activities).

Table 29 lists representative tasks performed by AD first-enlistment personnel. Most involve general tasks, such as reproducing drawings, performing fundamental drafting practices, such as dimensioning, line weights, or sheet layouts using a CADD system. In addition, they maintain computer drawing files and interpret blueprints. Reviewing Table 29, the data displays a very diversified group of first-enlistment personnel who essentially work in two distinct areas--engineering and contract management (see Figure 2).

**AFSC 3E5X1 FIRST-ENLISTMENT PERSONNEL
CAREER LADDER JOBS
(N=191)**

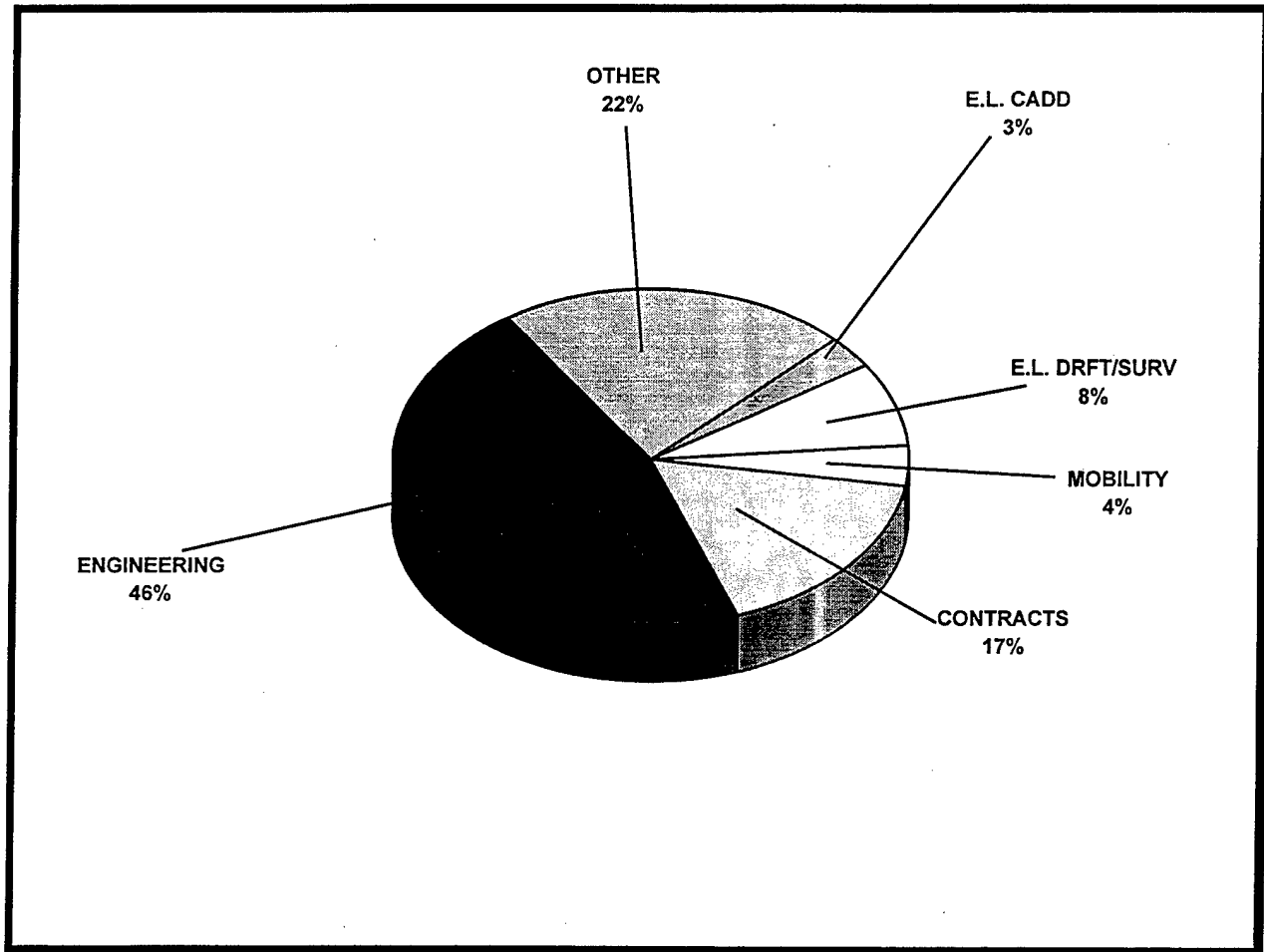


FIGURE 2

Table 30 lists all of the surveying tools, systems or equipment used or maintained by 30 percent or more of first-enlistment airmen. Most commonly used equipment include Autocad, Transit, Total Station with Data Recorder, computers and calculators

Training Emphasis (TE) and Task Difficulty (TD) Data

TE and TD data are secondary factors that can assist technical school personnel in deciding which tasks should be emphasized in entry-level training. These ratings, based on the judgments of senior career ladder NCOs working at operational units in the field, are collected to provide

training personnel with a rank-ordering of those tasks in the JI considered important for first-enlistment personnel training (see Table 31 for the top-rated tasks), along with a measure of the difficulty of the JI tasks (see selected high rated tasks presented in Table 32). When combined with data on the percentages of first-enlistment personnel performing tasks, comparisons can then be made to determine if training adjustments are necessary. For example, tasks receiving high ratings on both task factors, accompanied by moderate to high percentages performing, may warrant resident training. Those tasks receiving high task factor ratings, but low percentages performing, may be more appropriately planned for OJT programs within the career ladder. Low task factor ratings may highlight tasks best omitted from training for first-enlistment personnel, but this decision must be weighed against percentages of personnel performing the tasks, command concerns, and criticality of the tasks.

To assist technical school personnel, AFOMS has developed a computer program that incorporates these secondary factors and the percentage of first-enlistment personnel performing each task to produce an Automated Training Indicator (ATI) for each task. These indicators correspond to training decisions listed and defined in the Training Decision Logic Table found in Attachment 2, AFI 36-2601, and allows course personnel to quickly focus their attention on those tasks which are most likely to qualify for initial resident course consideration.

Table 31 presents tasks with the highest TE ratings for AFSC 3E5X1 first-enlistment airmen, while Table 32 displays those tasks AFSC 3E5X1 raters judged to be most difficult to learn how to do. For example, TE raters (refer to Table 31) reported that tasks such as setting up surveying equipment and completing architectural plans and civil plans using a CADD system require a lot of training emphasis and, from the data, most airmen in their first job and within their first enlistment are performing these tasks. Table 32 shows TD raters report drafting or writing project specifications, developing career development courses (CDCs) and computing horizontal curve data to be examples of some of the more difficult tasks to learn. However, due to the low numbers of individuals performing these type of tasks, these tasks would be inappropriate for including in a technical resident curriculum and are more appropriately taught as an OJT item.

Various lists of tasks, accompanied by TE and TD ratings, and where appropriate, ATI information, are contained in the TRAINING EXTRACT package and should be reviewed in detail by technical school personnel. (For a more detailed explanation of TE and TD ratings, see Task Factor Administration in the **SURVEY METHODOLOGY** section of this report.)

TABLE 28

RELATIVE PERCENT TIME SPENT ON DUTIES BY ACTIVE DUTY
FIRST-ENLISTMENT PERSONNEL
(N=191)

| DUTIES | PERCENT TIME SPENT |
|---|--------------------------|
| A ORGANIZING AND PLANNING | 5 |
| B DIRECTING AND IMPLEMENTING | 1 |
| C INSPECTING AND EVALUATING | 4 |
| D TRAINING | 1 |
| E PERFORMING GENERAL ADMINISTRATIVE ACTIVITIES | 6 |
| F PERFORMING SUPPLY AND EQUIPMENT ACTIVITIES | 5 |
| G PERFORMING SURVEYING ACTIVITIES | 16 |
| H PERFORMING MANUAL DRAFTING ACTIVITIES | 12 |
| I PERFORMING COMPUTER AIDED DESIGN AND DRAFTING (CADD) SYSTEM ACTIVITIES | 23 |
| J PERFORMING PROJECT PLANNING ACTIVITIES | 1 |
| K PERFORMING CONTRACT MANAGEMENT ACTIVITIES | 8 |
| L PERFORMING COST-ESTIMATE AND ANALYSIS ACTIVITIES | 1 |
| M PERFORMING MATERIAL TESTING | * |
| N PERFORMING GROUND RADAR EVALUATIONS | 1 |
| O PERFORMING ENGINEERING SPECIFIC CONTINGENCY ACTIVITIES | 7 |
| P PERFORMING GENERAL CONTINGENCY ACTIVITIES | 10 |

* Denotes less than .5 percent

TABLE 29
REPRESENTATIVE TASKS PERFORMED BY
ACTIVE DUTY FIRST-ENLISTMENT PERSONNEL
(N=191)

| TASKS | PERCENT MEMBERS PERFORMING |
|--|----------------------------------|
| H341 Reproduce drawings | 73 |
| I363 Perform fundamental drafting practices, such as dimensioning, line weights, or sheet layouts using CADD system | 65 |
| H307 Interpret blueprints | 64 |
| I360 Maintain computer drawing files | 63 |
| H308 Interpret engineering sketches | 62 |
| G306 Set up surveying equipment | 60 |
| I342 Complete architectural plans using CADD system | 59 |
| I343 Complete civil plans using CADD system | 59 |
| I350 Develop modifications from existing drawings using CADD system | 59 |
| I365 Update as-built drawings using CADD system | 58 |
| G289 Measure horizontal distances using tapes | 58 |
| H312 Maintain drawing files, other than computer drawing files | 56 |
| I344 Complete electrical plans using CADD system | 54 |
| O545 Perform airfield damage assessments | 53 |
| I345 Complete mechanical plans using CADD system | 52 |
| G286 Measure horizontal distances using electronic equipment | 52 |
| I366 Update record drawings using CADD system | 51 |
| I346 Complete structural plans using CADD system | 51 |
| I356 Draw charts using CADD system | 51 |
| O549 Plot airfield damage assessments | 51 |
| G283 Manually input field data into CADD system | 45 |
| A30 Participate in general meetings, such as s staff meetings, briefings, conferences, and workshops, other than conducting | 43 |
| I352 Draft preliminary designs for civil plans using CADD system | 41 |
| I351 Draft preliminary designs for architectural plans using CADD system | 40 |
| I361 Measure irregular lines using CADD system | 39 |
| I353 Draft preliminary designs for electrical plans using CADD system | 37 |
| C89 Evaluate drawings or engineering plans for accuracy | 36 |
| I364 Revise BCPs using CADD system | 34 |
| E205 Pick up or deliver messages | 33 |

Average Number of Tasks Performed - 70

TABLE 30

SURVEYING TOOLS, SYSTEMS OR EQUIPMENT MAINTAINED BY
MORE THAN 30 PERCENT ACTIVE DUTY FIRST-JOB OR
FIRST-ENLISTMENT PERSONNEL

| EQUIPMENT | % MEMBERS MAINTAINING | |
|---|-----------------------|--------------------|
| | 3E5X1 | 3E5X1 |
| | 1ST JOB (N=78) | 1ST ENL (N=191) |
| <u>Computer Aided Design System Used (CADD)</u> | | |
| Autocad | 64 | 63 |
| Intergraph | 26 | 27 |
| None | 6 | 8 |
| Other | 4 | 2 |
| <u>Survey Instruments used within functional area</u> | | |
| Transit | 42 | 47 |
| Total Station with Data Recorder | 37 | 42 |
| Theodolite without EDM | 32 | 34 |
| Total Station with out Data Recorder | 31 | 31 |
| <u>General Equipment used</u> | | |
| Computers | 97 | 97 |
| Calculators | 78 | 85 |
| Drawing tables | 71 | 66 |
| Mechanical pencils | 64 | 62 |
| Plotters | 60 | 60 |
| Level rods | 63 | 59 |
| Precision rods, such as Philadelphia rods | 54 | 56 |
| Radios | 53 | 54 |
| Range poles | 49 | 50 |
| Plumb bobs | 49 | 48 |
| Prisms | 47 | 48 |
| Diazo process copying machines | 47 | 46 |
| Lettering set with lettering guides | 46 | 46 |
| Drafting machines | 41 | 38 |
| Lead holders | 54 | 36 |
| Hammers, sledge | 38 | 35 |
| Levels, dumpy or engineer | 26 | 33 |
| Cameras | 31 | 31 |
| Recorder, data | 33 | 31 |

TABLE 31

DAFSC 3E5X1 TASKS WITH HIGHEST TRAINING EMPHASIS RATINGS

| TASKS | TNG EMP* | PERCENT MEMBERS PERFORMING | | TASK DIFF** |
|--|-------------|----------------------------------|------------|----------------|
| | | 1ST JOB | 1ST ENL | |
| G306 Set up surveying equipment | 6.81 | 64 | 60 | 3.63 |
| I342 Complete architectural plans using CADD system | 6.75 | 53 | 59 | 5.78 |
| I343 Complete civil plans using CADD system | 6.71 | 53 | 59 | 5.93 |
| I345 Complete mechanical plans using CADD system | 6.58 | 46 | 52 | 6.12 |
| I363 Perform fundamental drafting practices, such as dimensioning, line weights, or sheet layouts using CADD system | 6.57 | 68 | 65 | 4.73 |
| I344 Complete electrical plans using CADD system | 6.57 | 47 | 54 | 6.13 |
| I350 Develop modifications from existing drawings using CADD system | 6.55 | 56 | 59 | 5.26 |
| I360 Maintain computer drawing files | 6.54 | 62 | 63 | 4.83 |
| I346 Complete structural plans using CADD system | 6.43 | 47 | 51 | 5.85 |
| I365 Update as-built drawings using CADD system | 6.29 | 54 | 58 | 5.02 |
| I366 Update record drawings using CADD system | 6.19 | 47 | 51 | 5.10 |
| H308 Interpret engineering sketches | 6.16 | 63 | 62 | 5.36 |
| H307 Interpret blueprints | 6.13 | 65 | 64 | 5.29 |
| I351 Draft preliminary designs for architectural plans using CADD system | 6.08 | 36 | 40 | 6.04 |
| I352 Draft preliminary designs for civil plans using CADD system | 6.08 | 36 | 41 | 6.04 |
| I355 Draft preliminary designs for structural plans using CADD system | 6.02 | 32 | 36 | 6.11 |
| G286 Measure horizontal distances using electronic equipment | 6.01 | 50 | 52 | 4.28 |
| I353 Draft preliminary designs for electrical plans using CADD system | 6.00 | 28 | 37 | 6.19 |
| I354 Draft preliminary designs for mechanical plans using CADD system | 6.00 | 32 | 38 | 6.26 |
| G283 Manually input field data into CADD system | 5.98 | 46 | 45 | 5.65 |
| G280 Maintain surveying equipment | 5.97 | 40 | 41 | 4.35 |
| O545 Perform airfield damage assessments | 5.91 | 45 | 53 | 5.27 |
| G303 Record field notes using standard surveying procedures | 5.89 | 38 | 39 | 3.94 |
| G285 Measure horizontal angles | 5.87 | 51 | 48 | 4.37 |

* Mean TE Rating is 2.17, and Standard Deviation is 1.62 (High TE = 3.79)

** Mean TD Rating is 5.00, and Standard Deviation is 1.00

TABLE 32

DAFSC 3E5X1 TASKS WITH HIGHEST TASK DIFFICULTY RATINGS

| TASKS | TASK DIFF* | 1ST JOB | 1ST ENL | PERCENT MEMBERS PERFORMING | | | | | | TNG EMP |
|-------|---------------|------------|------------|----------------------------|----------------|----------------|----------------|--|------|------------|
| | | | | DAFSC 3E531 | DAFSC 3E551 | DAFSC 3E571 | DAFSC 3E571 | | | |
| J374 | 7.76 | 1 | 2 | 2 | 12 | 20 | | | 2.38 | |
| D136 | 7.23 | 4 | 3 | 3 | 1 | 1 | | | .59 | |
| G263 | 7.23 | 12 | 13 | 11 | 8 | 7 | | | 4.68 | |
| G271 | 7.19 | 5 | 10 | 10 | 9 | 7 | | | 4.00 | |
| L444 | 7.08 | 6 | 7 | 4 | 18 | 28 | | | 1.40 | |
| C105 | 7.08 | 6 | 8 | 7 | 24 | 43 | | | 2.55 | |
| A29 | 7.07 | 0 | 3 | 3 | 4 | 8 | | | .35 | |
| N518 | 7.03 | 0 | 0 | 0 | 1 | 1 | | | .40 | |
| J372 | 6.99 | 3 | 3 | 3 | 7 | 20 | | | 2.91 | |
| J370 | 6.99 | 5 | 7 | 7 | 10 | 13 | | | 2.45 | |
| C90 | 6.98 | 6 | 10 | 12 | 32 | 51 | | | 3.63 | |
| J376 | 6.98 | 5 | 11 | 7 | 25 | 41 | | | 2.75 | |
| G269 | 6.98 | 6 | 9 | 9 | 5 | 4 | | | 4.57 | |
| M513 | 6.94 | 0 | 0 | 0 | 1 | 1 | | | .61 | |
| J373 | 6.90 | 3 | 3 | 2 | 6 | 11 | | | 1.74 | |
| D138 | 6.89 | 1 | 2 | 3 | 2 | 3 | | | .38 | |
| | | | | | | | | | | |
| J369 | 6.86 | 5 | 7 | 7 | 10 | 13 | | | 2.46 | |
| N519 | 6.85 | 0 | 0 | 0 | 0 | 0 | | | .25 | |
| L448 | 6.84 | 0 | 1 | 0 | 2 | 2 | | | .78 | |
| K397 | 6.82 | 10 | 10 | 8 | 18 | 23 | | | 1.86 | |
| M455 | 6.80 | 0 | 2 | 2 | 3 | 2 | | | 1.60 | |
| J371 | 6.79 | 5 | 7 | 7 | 10 | 13 | | | 2.52 | |
| J375 | 6.79 | 5 | 7 | 6 | 21 | 38 | | | 2.25 | |
| I362 | 6.75 | 14 | 21 | 19 | 14 | 8 | | | 3.94 | |
| G260 | 6.72 | 4 | 10 | 12 | 9 | 10 | | | 4.85 | |

* TD MEAN = 5.00; SD = 1.00

Specialty Training Standard (STS)
Engineering Utilization and Training Workshop (U&TW)

As mentioned earlier, data from this occupational survey were used to support a Engineering U&TW in October 1996. Survey data compiled in the form of a special U&TW Extract was provided to workshop participants. This U&TW Extract included information relating to survey sample, job structure, skill level progression, first-job and first-enlistment personnel utilization, job satisfaction and Mission Ready Technician (MRT) core task identification. The purpose and other pertinent information concerning the U&TW is described below:

Purpose: To review the CFETP, identify Engineering Assistant MRT and Career Development Course (CDC) requirements, verify/identify core tasks, and review advanced courses to meet the future training needs for the career field.

Location/Dates: Detachment 7/366th Training Squadron, Ft Leonard Wood, MO. 28 October - 1 November 96.

Attendees: The workshop was chaired by SMSgt Gelsleichter, HQ AFCEA/CEOT, and facilitated by Mr. Bobby Halterman, Det 7/366 TRS.

| <u>NAME</u> | <u>OFFICE</u> | |
|------------------------------|---------------|-------------|
| • SMSgt MICHAEL GELSLEICHTER | HQ/AFCEA/CEOT | Chairman |
| • Mr. BOBBY HALTERMAN | DET 7/366 TRS | Facilitator |
| • 2Lt SCOTT M. FOLEY | AFOMS/OMYO | Member |
| • SMSgt DON BRANNAM | HQ AMC/CECD | Member |
| • SMSgt JESSE PARKS | HQ PACAF/CECS | Member |
| • MSgt ROBERT ELLS | AFTAC/LESC | Member |
| • MSgt JOHN TUCKER | 11 CES/CEOEC | Member |
| • TSgt CHRISTINE CLAY | 159 CES/CEEE | Member |
| • TSgt JOHN SANCHEZ | 944 CES/CEEC | Member |
| • TSgt RANDY VANSLAMBROUCK | HQ USAFE/CEOM | Member |

Summary: The U&TW established MRT and CDC requirements for the career ladder, restructured and simplified the CFETP, verified/identified core tasks, and identified future training needs for the Engineering Assistant career ladder. OSR data were used throughout the U&TW and supported changes made by workshop participants.

JOB SATISFACTION ANALYSIS

An examination of the job satisfaction indicators of various groups can give career ladder managers a better understanding of some of the factors which may affect the job performance of airmen in the career ladder. Attitude questions covering job interest, perceived utilization of talents and training, sense of accomplishment from work, and reenlistment intentions were included in the survey booklet to provide indications of job satisfaction.

Table 33 presents job satisfaction data for AFSC 3E5X1 AD TAFMS groups, together with TAFMS data for a comparative sample of Direct Support career ladders surveyed in 1995. Overall, the majority of the AD AFSC 3E5X1 survey sample express very positive feelings toward their jobs and display approximately the same percentages than the comparative sample groups. However, there are some differences among the groups. Personnel in this career ladder report on the average higher job interest indicators than their comparative sample; however, in the 1-48 months TAFMS group, the indicators are lower for the 3E5X1 personnel than the comparative sample. Indicators for the perceived use of personnel talents show a positive trend; however, again, the 1-48 months TAFMS 3E5X1 personnel display the lower indicators. Of more importance is the perceived use of training, both in the 1-48 months and 49-96 months TAFMS for this study reported lower scores than did their comparative sample counterparts. Overall, the sense of accomplishment from the job is about equal or greater than the comparative sample, but the reenlistment intentions of the 3E5X1 personnel are equal or lower across the board.

An indication of how job satisfaction perceptions have changed over time is provided in Table 34, where again TAFMS data for 1996 survey respondents are presented, along with data from respondents to the last OSR. The incumbents in the current study express equal job interest, and feel their talents and training are being used about the same as was expressed by respondents in the last OSR.

In Table 35, review of the job satisfaction data for personnel in the specialty jobs identified in this survey reveals that airmen in all jobs responded very positively to all the indicators listed. The Entry-Level CADD Draftsmen Job did express the lowest (60 percent) reenlistment intentions than did any other specialty job.

When there are serious problems in a career ladder, survey respondents are usually quite free with write-in comments to complain about perceived problems in the field. No particular trends were noted among the comments received.

TABLE 33

JOB SATISFACTION INDICATORS FOR ACTIVE DUTY AFSC 3E5X1 TAFMS GROUPS
(PERCENT MEMBERS RESPONDING)

| | 1-48 MONTHS TAFMS | | 49-96 MONTHS TAFMS | | 97+ MONTHS TAFMS | |
|---|--------------------------|-----------------------------|--------------------------|-----------------------------|--------------------------|-----------------------------|
| | AFSC 3E5X1 (N=191) | COMP SAMPLE (N=5,049) | AFSC 3E5X1 (N=125) | COMP SAMPLE (N=3,150) | AFSC 3E5X1 (N=368) | COMP SAMPLE (N=6,337) |
| <u>EXPRESSED JOB INTEREST:</u> | | | | | | |
| INTERESTING | 80 | 86 | 78 | 65 | 84 | 73 |
| SO-SO | 14 | 10 | 15 | 19 | 9 | 17 |
| DULL | 7 | 4 | 6 | 16 | 7 | 10 |
| <u>PERCEIVED USE OF TALENTS:</u> | | | | | | |
| FAIRLY WELL TO PERFECTLY NONE TO VERY LITTLE | 81 19 | 89 11 | 80 20 | 74 26 | 82 18 | 80 20 |
| <u>PERCEIVED USE OF TRAINING:</u> | | | | | | |
| FAIRLY WELL TO PERFECT NONE TO VERY LITTLE | 73 27 | 91 9 | 66 34 | 72 28 | 74 26 | 72 28 |
| <u>SENSE OF ACCOMPLISHMENT FROM JOB:</u> | | | | | | |
| SATISFIED | 73 | 57 | 74 | 74 | 73 | 69 |
| NEUTRAL | 11 | 42 | 9 | 26 | 8 | 9 |
| DISSATISFIED | 16 | 1 | 17 | - | 19 | 22 |
| <u>REENLISTMENT INTENTIONS:</u> | | | | | | |
| YES OR PROBABLY YES | 54 | 62 | 67 | 67 | 74 | 77 |
| NO OR PROBABLY NO | 46 | 16 | 33 | 12 | 7 | 9 |
| WILL RETIRE | - | 22 | - | 21 | 18 | 14 |

NOTE: Comparative data are from 2T1X1, 2S0X1, 3C0X1, 3C0X2, 3E0X1, 3E2X1, 3E3X1, 3E4X1 and 3V0X3 surveyed in 1995 (N=14,536).

TABLE 34

COMPARISON OF JOB SATISFACTION INDICATORS FOR ACTIVE DUTY AFSC 3E5X1
TAFMS GROUPS IN CURRENT STUDY TO PREVIOUS STUDY
(PERCENT MEMBERS RESPONDING)

| | 1-48 MONTHS TAFMS | | 49-96 MONTHS TAFMS | | 97+ MONTHS TAFMS | |
|--|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| | 1996 3E5X1 (N=191) | 1990 553X0 (N=209) | 1996 3E5X1 (N=125) | 1990 553X0 (N=298) | 1996 3E5X1 (N=368) | 1990 553X0 (N=531) |
| <u>EXPRESSED JOB INTEREST:</u> | | | | | | |
| INTERESTING | 80 | 82 | 78 | 81 | 84 | 86 |
| SO-SO | 14 | 9 | 15 | 11 | 9 | 7 |
| DULL | 7 | 9 | 6 | 8 | 7 | 7 |
| <u>PERCEIVED USE OF TALENTS:</u> | | | | | | |
| FAIRLY WELL TO PERFECT | 81 | 80 | 80 | 82 | 82 | 71 |
| NONE TO VERY LITTLE | 19 | 20 | 20 | 17 | 18 | 29 |
| <u>PERCEIVED USE OF TRAINING:</u> | | | | | | |
| FAIRLY WELL TO PERFECT | 73 | 77 | 66 | 71 | 74 | 74 |
| NONE TO VERY LITTLE | 27 | 33 | 34 | 29 | 26 | 26 |
| <u>SENSE OF ACCOMPLISHMENT FROM JOB:</u> | | | | | | |
| SATISFIED | 73 | NA | 74 | NA | 73 | NA |
| NEUTRAL | 11 | NA | 9 | NA | 8 | NA |
| DISSATISFIED | 16 | NA | 17 | NA | 19 | NA |
| <u>REENLISTMENT INTENTIONS:</u> | | | | | | |
| YES OR PROBABLY YES | 54 | 45 | 67 | 67 | 74 | 68 |
| NO OR PROBABLY NO | 46 | 54 | 33 | 22 | 7 | 30 |
| WILL RETIRE | - | 0 | - | 0 | 18 | * |

NOTE: Columns may not add to 100 percent due to rounding or nonresponse

TABLE 35

JOB SATISFACTION INDICATORS FOR AFSC 3E5X1 JOB GROUPS
(PERCENT MEMBERS RESPONDING)

| | ENTRY-LVL CADD DRAFTSMEN JOB (ST285, N=10) | ENTRY-LVL DRAFTSMEN/ SURVEYOR JOB (ST104, N=31) | ENGINEERING CLUSTER (ST103, N=376) | MOBILITY CLUSTER (GP108, N=74) |
|--|--|---|--|--------------------------------------|
| <u>EXPRESSED JOB INTEREST:</u> | | | | |
| INTERESTING | 70% | 84% | 88% | 82% |
| SO-SO | 30% | 13% | 10% | 13% |
| DULL | - | 3% | 2% | 5% |
| <u>PERCEIVED USE OF TALENTS:</u> | | | | |
| FAIRLY WELL TO PERFECT | 70% | 87% | 88% | 89% |
| NONE TO VERY LITTLE | 30% | 13% | 12% | 11% |
| <u>PERCEIVED USE OF TRAINING:</u> | | | | |
| FAIRLY WELL TO PERFECT | 40% | 94% | 87% | 87% |
| NONE TO VERY LITTLE | 60% | 6% | 13% | 13% |
| <u>SENSE OF ACCOMPLISHMENT FROM JOB:</u> | | | | |
| SATISFIED | 80% | 68% | 79% | 76% |
| NEUTRAL | 20% | 16% | 9% | 12% |
| DISSATISFIED | - | 16% | 12% | 12% |
| <u>REENLISTMENT INTENTIONS:</u> | | | | |
| YES OR PROBABLY YES | 60% | 71% | 72% | 76% |
| NO OR PROBABLY NO | 40% | 29% | 18% | 12% |
| WILL RETIRE | - | - | 10% | 12% |

NOTE: Columns may not add to 100 percent due to rounding or nonresponse

TABLE 35 (CONTINUED)

JOB SATISFACTION INDICATORS FOR AFSC 3E5X1 JOB GROUPS
(PERCENT MEMBERS RESPONDING)

| | CONTRACT MANAGEMENT CLUSTER (ST029, N=265) | GROUND RADAR EVALUATORS JOB (ST315, N=7) | SUPERVISOR CLUSTER (ST052, N=72) |
|--|---|--|--|
| <u>EXPRESSED JOB INTEREST:</u> | | | |
| INTERESTING | 83% | 86% | 79% |
| SO-SO | 11% | 14% | 10% |
| DULL | 6% | - | 10% |
| <u>PERCEIVED USE OF TALENTS:</u> | | | |
| FAIRLY WELL TO PERFECT | 82% | 71% | 79% |
| NONE TO VERY LITTLE | 18% | 29% | 21% |
| <u>PERCEIVED USE OF TRAINING:</u> | | | |
| FAIRLY WELL TO PERFECT | 73% | 71% | 67% |
| NONE TO VERY LITTLE | 27% | 29% | 33% |
| <u>SENSE OF ACCOMPLISHMENT FROM JOB:</u> | | | |
| SATISFIED | 71% | 71% | 69% |
| NEUTRAL | 10% | 14% | 7% |
| DISSATISFIED | 18% | 14% | 24% |
| <u>REENLISTMENT INTENTIONS:</u> | | | |
| YES OR PROBABLY YES | 72% | 86% | 69% |
| NO OR PROBABLY NO | 17% | 14% | 8% |
| WILL RETIRE | 11% | - | 22% |

NOTE: Columns may not add to 100 percent due to rounding or nonresponse

IMPLICATIONS

This survey was initiated to provide current job and task data for use in evaluating the AFMAN 36-2108 *Specialty Description* and appropriate training documents

Survey results clearly indicate that the present classification structure, as described in the latest specialty description, accurately portrays the jobs performed in this career ladder. Career ladder training documents appear, on the whole, to be well supported by survey data. As was pointed out in the **JOB SATISFACTION ANALYSIS** section, job satisfaction responses by AFSC 3E5X1 personnel are very high and most individuals reported high utilization of training, thus indicating great support for the overall training system. Additionally, the career ladder progression is good, with the move from technical work at the 3- and 5-skill levels to supervisory and management at the 7- and 9-skill levels.

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APPENDIX A

SELECTED REPRESENTATIVE TASKS PERFORMED BY
MEMBERS OF CAREER LADDER JOBS

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TABLE A1

ENTRY-LEVEL CADD DRAFTSMEN JOB (ST285, N=10)

| TASKS | PERCENT MEMBERS PERFORMING |
|---|----------------------------------|
| I366 Update record drawings using CADD system | 100 |
| I365 Update as-built drawings using CADD system | 100 |
| I363 Perform fundamental drafting practices, such as dimensioning, line weights, or sheet layouts using CADD system | 70 |
| I350 Develop modifications from existing drawings using CADD system | 70 |
| H308 Interpret engineering sketches | 70 |
| H307 Interpret blueprints | 70 |
| I342 Complete architectural plans using CADD system | 70 |
| I344 Complete electrical plans using CADD system | 70 |
| I343 Complete civil plans using CADD system | 60 |
| I361 Measure irregular lines using CADD system | 70 |
| G283 Manually input field data into CADD system | 50 |
| I346 Complete structural plans using CADD system | 50 |
| I356 Draw charts using CADD system | 40 |
| I345 Complete mechanical plans using CADD system | 50 |
| I360 Maintain computer drawing files | 50 |
| I362 Perform architectural renderings using CADD system | 30 |
| C89 Evaluate drawings or engineering plans for accuracy | 60 |
| F226 Identify and report equipment or supply problems | 30 |
| D125 Conduct on-the-job training (OJT) | 40 |
| A30 Participate in general meetings, such as staff meetings, briefings, conferences, and workshops, other than conducting | 40 |
| H341 Reproduce drawings | 40 |
| J372 Draft or write materials takeoffs | 20 |
| I364 Revise BCPs using CADD system | 20 |
| I348 Develop airfield marking plans using CADD system | 20 |
| E187 Initiate electronic mail (E-mail) | 30 |
| I357 Draw oblique projection drawings, such as plumbing riser diagrams using CADD system | 30 |
| I353 Draft preliminary designs for electrical plans using CADD system | 20 |

TABLE A2

ENTRY-LEVEL DRAFTSMEN/SURVEYOR JOB (ST104, N=31)

| TASKS | PERCENT MEMBERS PERFORMING |
|--|----------------------------------|
| G306 Set up surveying equipment | 90 |
| G287 Measure horizontal distances using pacing technique | 90 |
| H341 Reproduce drawings | 87 |
| G289 Measure horizontal distances using tapes | 87 |
| G291 Measure vertical distances or heights | 71 |
| G285 Measure horizontal angles | 68 |
| G286 Measure horizontal distances using electronic equipment | 68 |
| H307 Interpret blueprints | 65 |
| I363 Perform fundamental drafting practices, such as | 65 |
| G303 Record field notes using standard surveying procedures | 65 |
| G256 Communicate using standardized hand signals | 58 |
| I360 Maintain computer drawing files | 55 |
| I342 Complete architectural plans using CADD system | 55 |
| H310 Letter drawings using free-hand style | 55 |
| H312 Maintain drawing files, other than computer drawing files | 52 |
| G283 Manually input field data into CADD system | 52 |
| G288 Measure horizontal distances using stadia | 52 |
| H335 Manually update as-built drawings | 48 |
| I350 Develop modifications from existing drawings using CADD | 48 |
| H308 Interpret engineering sketches | 48 |
| I343 Complete civil plans using CADD system | 42 |
| I365 Update as-built drawings using CADD system | 42 |
| G280 Maintain surveying equipment | 42 |
| G294 Perform as-built surveys | 39 |
| I356 Draw charts using CADD system | 39 |
| I361 Measure irregular lines using CADD system | 35 |
| G300 Perform topographic surveys | 35 |
| I344 Complete electrical plans using CADD system | 35 |
| I352 Draft preliminary designs for civil plans using CADD system | 32 |
| H336 Manually update record drawings | 29 |

TABLE A3

ENGINEERING CLUSTER (ST103, N=376)

| TASKS | PERCENT MEMBERS PERFORMING |
|--|----------------------------------|
| G306 Set up surveying equipment | 94 |
| H307 Interpret blueprints | 93 |
| H341 Reproduce drawings | 89 |
| G289 Measure horizontal distances using tapes | 88 |
| H308 Interpret engineering sketches | 87 |
| O545 Perform airfield damage assessments | 81 |
| H312 Maintain drawing files, other than computer drawing files | 80 |
| O549 Plot airfield damage assessments | 79 |
| O551 Select MOS candidates | 78 |
| P574 Erect tents | 78 |
| G303 Record field notes using standard surveying procedures | 76 |
| G280 Maintain surveying equipment | 76 |
| I360 Maintain computer drawing files | 75 |
| G256 Communicate using standardized hand signals | 75 |
| O542 Lay out minimum operating strip (MOS) centerlines | 75 |
| I343 Complete civil plans using CADD system | 74 |
| G285 Measure horizontal angles | 74 |
| I363 Perform fundamental drafting practices, such as | 73 |
| P568 Don or doff chemical warfare personal protective clothing | 71 |
| P576 Identify bomb crater damage locations | 70 |
| I342 Complete architectural plans using CADD system | 69 |
| I350 Develop modifications from existing drawings using CADD | 68 |
| G286 Measure horizontal distances using electronic equipment | 68 |
| I356 Draw charts using CADD system | 67 |
| I365 Update as-built drawings using CADD system | 66 |
| I344 Complete electrical plans using CADD system | 64 |
| I346 Complete structural plans using CADD system | 64 |
| I345 Complete mechanical plans using CADD system | 61 |
| I352 Draft preliminary designs for civil plans using CADD system | 61 |
| I366 Update record drawings using CADD system | 60 |

TABLE A4

MOBILITY CLUSTER (GP108, N=74)

| TASKS | PERCENT MEMBERS PERFORMING |
|--|----------------------------------|
| P574 Erect tents | 88 |
| O545 Perform airfield damage assessments | 77 |
| P568 Don or doff chemical warfare personal protective clothing | 76 |
| H307 Interpret blueprints | 76 |
| G306 Set up surveying equipment | 76 |
| O542 Lay out minimum operating strip (MOS) centerlines | 74 |
| O551 Select MOS candidates | 72 |
| P576 Identify bomb crater damage locations | 72 |
| O529 Compute repair quality criteria (RQC) for rapid runway | 69 |
| H341 Reproduce drawings | 68 |
| O549 Plot airfield damage assessments | 68 |
| O535 Identify and report suspected unexploded ordnance (UXO) | 68 |
| P579 Inspect mobility bags or kits | 61 |
| G289 Measure horizontal distances using tapes | 61 |
| O546 Perform crater layout surveys | 54 |
| H308 Interpret engineering sketches | 54 |
| O533 Develop camp cantonment layouts | 54 |
| P621 Practice base recovery after attack (BRAT) concepts | 53 |
| P598 Operate vehicles during contingency exercises or operations | 51 |
| P595 Operate portable radios, such as field radios during | 51 |
| P571 Erect camouflage netting | 51 |
| H312 Maintain drawing files, other than computer drawing files | 49 |
| P638 Tear down, inspect, clean, and reassemble weapons | 49 |
| O547 Perform crater profile measurements (CPMs) | 47 |
| D125 Conduct on-the-job training (OJT) | 47 |
| H310 Letter drawings using free-hand style | 47 |
| G256 Communicate using standardized hand signals | 45 |
| G280 Maintain surveying equipment | 45 |

TABLE A5

CONTRACT MANAGEMENT CLUSTER (ST029, N=265)

| TASKS | | PERCENT MEMBERS PERFORMING |
|-------|---|----------------------------------|
| C87 | Evaluate contractor compliance with work standards | 74 |
| K387 | Conduct daily on-site visits | 83 |
| K407 | Identify contractor performance discrepancies | 86 |
| E195 | Maintain daily inspection records | 72 |
| K413 | Maintain records of contract changes | 88 |
| K412 | Inspect and record construction projects for compliance with plans and specifications | 77 |
| K398 | Document construction activities | 72 |
| K386 | Conduct contract final acceptance inspections | 75 |
| K389 | Coordinate construction with appropriate agencies | 72 |
| K401 | Evaluate data on AF Forms 3000 (Material Approval Submittal) | 69 |
| K402 | Evaluate data on AF Forms 3064 (Contract Progress Schedule) | 73 |
| K408 | Identify on-site or design deficiencies | 75 |
| K436 | Write official memorandums to contracts | 65 |
| K410 | Inspect and record construction activities compliance with safety regulations or procedures | 72 |
| K424 | Prepare prefinal punch lists | 72 |
| K427 | Review progress schedules | 74 |
| K385 | Conduct construction contract preacceptance inspections | 71 |
| K388 | Conduct inspections of service contracts | 29 |
| K396 | Coordinate work clearance requests with appropriate agencies | 72 |
| K403 | Evaluate data on AF Forms 3065 | 68 |
| K417 | Participate in preperformance conferences | 76 |
| K390 | Coordinate contract modifications with construction managers | 69 |
| J376 | Estimate cost-elements, such as materials, equipment, or labor | 51 |
| K382 | Complete AF Forms 3065 (Contract Progress Report) | 65 |

TABLE A6
GROUND RADAR EVALUATORS JOB (ST315, N=7)

| TASKS | PERCENT MEMBERS PERFORMING |
|---|----------------------------------|
| N514 Analyze radar or radio lines of sight in relation to ground | 100 |
| G261 Compute geographical locations using global positioning | 100 |
| N516 Collect physical radar site data | 100 |
| E175 Coordinate obtaining TDY orders, passports, or visas with appropriate agencies | 100 |
| G289 Measure horizontal distances using tapes | 100 |
| N515 Calculate magnetic declinations | 100 |
| G265 Compute level circuit data | 100 |
| G306 Set up surveying equipment | 86 |
| G255 Assemble background reconnaissance information on sites | 86 |
| N525 Record field notes using radar evaluation procedures | 86 |
| N522 Establish baselines | 86 |
| N521 Draw pictorial site plans | 86 |
| N524 Format field data for computer input | 86 |
| G285 Measure horizontal angles | 86 |
| G280 Maintain surveying equipment | 86 |
| E182 Draft requests for TDY orders, passports, or visas | 86 |
| G253 Adjust level circuit data | 86 |
| G290 Measure vertical angles | 86 |
| G299 Perform site reconnaissance | 86 |
| D125 Conduct on-the-job training (OJT) | 85 |
| G257 Compute azimuths and bearings | 71 |
| N517 Compute solar data | 71 |
| G279 Maintain field survey files | 71 |
| G303 Record field notes using standard surveying procedures | 71 |
| G291 Measure vertical distances or heights | 71 |
| C92 Evaluate field notes | 71 |
| G272 Download electronic data recorders into computer aided | 57 |
| N523 Establish horizontal profiles | 57 |
| E183 Draft trip itineraries | 57 |

TABLE A7
SUPERVISOR CLUSTER (ST052, N=72)

| TASKS | PERCENT MEMBERS PERFORMING |
|---|----------------------------------|
| A30 Participate in general meetings, such as staff meetings, briefings, conferences, and workshops, other than conducting | 80 |
| A7 Determine or establish work priorities | 81 |
| B73 Supervise Engineering Journeymen (AFSC 3E551) | 61 |
| A35 Plan or schedule work assignments or priorities | 74 |
| C102 Evaluate personnel for compliance with performance standards | 72 |
| A24 Establish performance standards for subordinates | 78 |
| C116 Write EPRs | 68 |
| D125 Conduct on-the-job training (OJT) | 69 |
| C103 Evaluate personnel for promotion, demotion, reclassification, or special awards | 73 |
| B50 Counsel subordinates on personal matters | 78 |
| C78 Conduct performance feedback evaluation sessions | 69 |
| A12 Develop or establish work methods or procedures | 71 |
| B72 Supervise Engineering Apprentices (AFSC 3E531) | 51 |
| A1 Assign personnel to work areas or duty positions, other than mobility positions | 65 |
| B74 Supervise Engineering Craftsmen (AFSC 3E571) | 47 |
| A28 Establish work schedules | 64 |
| C118 Write recommendations for awards or decorations | 72 |
| C76 Analyze workload requirements | 61 |
| C111 Inspect personnel for compliance with military standards | 64 |
| B69 Interpret policies, directives, or procedures for subordinates | 60 |
| B75 Supervise military personnel with AFSCs other than AFSC 3E5X1 | 38 |
| B49 Conduct supervisory orientations of newly assigned personnel | 63 |
| A34 Plan or prepare briefings, conferences, or workshops | 56 |

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